

THE
INVENTORY OF
SEEDS AND
PLANTS
IMPORTED
U. S. D. A.

Dr. M. H. M. G. N. H. Library

6930.6 USDA



4958

1926 TO 1930

4958

630.6 USDA

Accno. 4958

GOVERNMENT BOTANIC GARDENS,
LAL-BAG, BANGALORE,
LIBRARY.

Section.....

No.....

Date.....

630.5

USDA



Government of Karnataka

Dr. M. H. Marigowda National Horticulture Library

Directorate Of Horticulture Lalbagh,
Bangalore - 560 004

ACC. No. 4958

CALL No. 630-6USDA



UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 75



Washington, D. C.



Issued February, 1926

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1923 (NOS. 56791 TO 57679)

CONTENTS

	Page
Introductory statement.....	1
Inventory.....	3
Index of common and scientific names.....	32

INTRODUCTORY STATEMENT

When the first Inventory of Seeds and Plants Imported was prepared in 1898, there were practically no government plant-breeding institutions in existence, and almost all of the plants introduced were for direct trial as new crops. Few wild forms were represented, and almost no collections of seeds which were the result of the hybridization or selection work of foreign plant breeders. To-day, as is particularly evident in this inventory, an exchange between the plant breeders of the world is going on which shows a remarkable activity in this field. This practice should be encouraged, for it opens up a wide field of trial for any new variety, and it can be confidently predicted that out of these newly made and plastic forms are likely to come many great commercial varieties of the future. Forms which in the country of their origin have proved inferior to others may prove superior in some other environment.

This inventory contains a record of many selected and previously studied varieties of plants sent by foreign plant-breeding institutions: A collection of peanut varieties from the Department of Agriculture at Buitenzorg, Java (*Arachis hypogaea*; Nos. 56842 to 56849); a new strain of red clover from Dr. H. N. Knudsen's selection station in Denmark (*Trifolium pratense*; No. 56850); two new Hungarian wheats, one a selection of the famous Canadian Marquis wheat originated by Charles Saunders (*Triticum aestivum*; Nos. 56858 and 56859); a new oat from Dr. R. J. Mansholt, of the Royal Netherlands College of Agriculture (*Avena sativa*; No. 56892); three new strains of red clover from Dr. G. Martinet, of the Seed-Control Station, Lausanne, Switzerland (*Trifolium pratense*; Nos. 56896 to 56898); two recently evolved varieties of oats from the Svalof Seed-Breeding Station of Sweden (*Avena sativa*; Nos. 56899 and 56900); eight selected potato strains resistant to disease from the station for potato culture of Czechoslovakia (*Solanum tuberosum*; Nos. 56912 to 56919); over 200 selected seedlings of the sweetpotato (which seldom seeds in the United States) from J. B. Thompson, of the experiment station of the Virgin Islands (*Ipomoea batatas*; Nos. 56920 to 57012, 57395 to 57514); a collection of 22 varieties of barley from the Cambridge School of Agriculture, England (*Hordeum* spp.; Nos. 57013 to 57034); a hardy variety of red clover selected by Doctor Knudsen, of the Danish Royal Agricultural Society (*Trifolium pratense*; No. 57036); a large collection of varieties of barley, rye, and wheat from L. Dekaprelevitch, Director of Plant Breeding, Tiflis, Transcaucasia (Nos. 57094 to 57210); a collection of clover varieties from Prof. N. I. Vavilov, of Petrograd (*Trifolium* spp.; Nos. 57229 to 57247); 12 strains of cotton, including the American Pima variety after being grown three generations in Egypt, from Dr. R. H. Forbes, formerly of Arizona (*Gossypium* spp.; Nos. 57248 to 57259); and a collection of grass and cereal varieties from the Russian experiment station of Ekaterinoslav (Nos. 57515 to 57611).

The growing volume of the selections which are being made by foreign plant breeders indicates a greater appreciation on the part of governments of the value of plant varieties in the agriculture of their countries.

The special explorations made by Dr. H. V. Harlan through North Africa, extending into India, in search of certain useful plant characters, which through sporting or otherwise have made their appearance in the barley fields of these regions, mark, it is believed, a turning point in the development of plant introduction and plant breeding alike. They attract attention to the value of a character, such as that of silkiness instead of harshness of awns, as a desirable thing to introduce and incorporate into American barleys through crossing. In the beginning new varieties were introduced because they might themselves be better than those we had. Varieties are now being introduced which are known to be inferior to those already grown in all but perhaps one or two characters, for the purpose of incorporating these superior characters into new and superior strains. Doctor Harlan's collections, a few of which appear in this inventory, will be found described under Nos. 57042 to 57074 and 57612 to 57664 (which include what is reported to be the original Mariout barley that has been so successful in America).

Of the other introductions in this seventy-fifth inventory, the following appear unusually interesting to the writer:

Rock's wild apple from the Likiang Snow Range of Yunnan, *Malus yunnanensis* (No. 57225), which grows at altitudes of 10,000 feet among the rocks on the borderland of Tibet and bears large corymbs of yellow and red fruits about an inch in diameter, and his fragrant-scented rich-pink-flowered *Luculia* (No. 56825) which he found on the Shweli-Salwin Divide in Yunnan and that he declares is "one of the handsomest shrubs of which I know," with salver-shaped flowers 2 inches across; Matsuda's three wild varieties of the Japanese persimmon, or kaki, from the mountains of Kyusiu Island, Japan, one of which may prove to be the wished-for ideal stock for the fine cultivated varieties now assuming rapid commercial importance (*Diospyros kaki*; Nos. 56831 to 56833); Mundy's "perennial Sudan grass," a variety which volunteers readily from seed, especially on cultivated land, and is a form of *Sorghum arundinaceum* (No. 56801); Roberts's long, fleshy cucumber (*Cucumis sativus*; No. 56805) from the Malwa Plateau of Rajputana, India, which is grown there in the hot rainy season and may prove adapted to cultivation in our Southern States in the summer; the eight varieties of bor, or Indian jujube (*Ziziphus mauritiana*; Nos. 56812 to 56819), sent in by G. S. Cheema from Poona, India, a species that has already become naturalized in southern Florida through the efforts of this office and is being used as a stewed fruit by a number of people; Nilsson's mutation of the ordinary European aspen *Populus tremula* (Nos. 56871 and 56872), which was found in the woods of western Sweden (it is fastigiate, resembling the Lombardy poplar, and may prove useful for dooryards); Cooper's seed of the beautiful yellow flowering shrub, *Prinsepia sinensis* (No. 57087), from the mountains back of Patung, Hupeh. The early-flowering hardy character of this Chinese shrub, as Professor Sargent has already pointed out, will make it popular throughout the North Atlantic States, where it is hardy. The handsome deep-blue flowering *Exacum zeylanicum macranthum* (No. 57260), relative of our gentian, which Frank B. Noyes, of Washington, brought back from the mountains of Ceylon, may thrive in Florida and southern California. The supply of seeds of the grumichama of Brazil, *Eugenia dombeyi* (No. 57270), which Willis T. Pope sent from Honolulu, is of interest because this highly ornamental new fruiting shrub has proved hardy in southern Florida, and its cherrylike fruits are sure to be appreciated by those who can grow it. Johansen's *Triplaris cumingiana* (No. 57092), a striking ornamental tree from the Isthmus of Panama, deserves a place in the parks of the tropical world. A remarkable collection of seeds of hardy trees and shrubs presented by A. D. Woeikoff, director of the experimental farm at Echo, Manchuria, and including such rare species as *Betula davurica* (No. 57278), *Acanthopanax senticosum* (No. 57274), *Euonymus hamiltonianus* (No. 57281), *Prunus maackii* (No. 57310), *Tilia amurensis* (No. 57345), *T. mandshurica* (No. 57346), *Viburnum burejaeticum* (No. 57366), and *Prinsepia sinensis* (No. 57309), can not fail to be valuable in the ornamental plantings of the parks and dooryards in the Northwest.

As during the years past, the work of determination of the names of the various species introduced has been done by H. C. Skeels. The descriptive notes have been prepared by Paul Russell, who has had general supervision of this inventory.

DAVID FAIRCHILD,

Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., May 25, 1925.

INVENTORY¹

56791. DILLENIA INDICA L. Dillenia- ceæ.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received May 25, 1923.

A handsome medium-sized tree with a round compact crown; the dark-green leaves are 15 inches long and 3 inches wide. The large white flowers are fragrant and very attractive. The smooth greenish heart-shaped fruits, 3 inches long and 4 inches wide, are produced in great profusion, maturing in September and October. The edible part consists of the large fleshy sepals which inclose the carpels and are pleasantly acid, suggesting the flavor of an unripe apple. In India the sepals are used in making jelly and cooling drinks and are also used in curries. (Adapted from *Philippine Agricultural Review*, vol. 10, p. 16.)

For previous introduction, see S. P. I. No. 49713.

56792. PRUNUS SEROTINA Ehrh. Amygdalaceæ. Capulin.

From Cuenca, Ecuador. Seeds presented by Dr. Federico Malo. Received May 26, 1923.

"Capulin seeds of a number of good varieties, collected in the vicinity of the Challuabamba Valley, about 11 kilometers from Cuenca, Ecuador." (Malo.)

To be grown for selection of promising seedlings.

For previous introduction, see S. P. I. No. 55765.

56793. TRIFOLIUM INCARNATUM L. Fabaceæ. Crimson clover.

From Paris, France. Seeds presented by H. Fauchet and A. Plessis. Received May 26, 1923.

Locally grown seed introduced for department specialists engaged in clover breeding.

56794. CUCUMIS sp. Cucurbitaceæ.

From Johannesburg, South Africa. Seeds presented by A. J. Bester. Received May 28, 1923.

"A 'cucumber' which I found being grown by the natives. It makes a very fine salad." (Bester.)

56795. TRIFOLIUM PRATENSE L. Fa- baceæ. Red clover.

From Wellington, New Zealand. Seeds presented by A. H. Cockayne, biologist, Department of Agriculture. Received May 29, 1923.

"Grown on the Canterbury Plains in the South Island, New Zealand." (Cockayne.)

Locally grown seed introduced for department specialists engaged in clover breeding.

56796 and 56797. LYCOPERSICON ESCU- LENTUM Mill. Solanaceæ. Tomato.

From Nancy, France. Seeds presented by Edmond Gain, director, Botanic Garden. Received May 31, 1923.

Introduced for department specialists engaged in the study of tomato diseases.

56796. Var. *pyriforme*. A pear-shaped form of the common tomato.

56796 and 56797—Continued.

56797. Var. *pimpinellifolium*. A South American form, sometimes called the "currant tomato," with 2-ranked racemes of red fruits somewhat larger than a large red currant. The plant grows wild in Peru and Brazil, is very vigorous and comparatively hardy, and the fruits are excellent for preserving. (Adapted from *Sturtevant, Notes on Edible Plants*, p. 347.)

56798. STYLOSANTHES ERECTA Beauv. Fabaceæ.

From Boma, Belgian Congo. Seeds presented by the General Secretary, Belgian Congo Government General. Received May 26, 1923.

"This plant prospers in sandy soils, but does not thrive in black, humid soils. It is very drought resistant. In Guadeloupe horses search through the pastures for this plant." (*The General Secretary*.)

A copiously branched ascending shrub about 4 feet high, with broad, rather stiff, compound leaves, and terminal oblong heads of inconspicuous flowers. It is native to tropical Africa. (Adapted from *Oliver, Flora of Tropical Africa*, vol. 2, p. 156.)

Introduced for department forage-crop specialists.

56799. GARCINIA BUCHANANI Baker. Clusiaceæ.

From Dominica, British West Indies. Seeds presented by Alfred Keys, assistant curator, Botanic Gardens. Received June 6, 1923.

A tropical African relative of the mangosteen (*Garcinia mangostana*), introduced for breeding experiments with the mangosteen.

56800. PHYTOLACCA CLAVIGERA W. W. Smith. Phytolaccaceæ.

From Edinburgh, Scotland. Seeds presented by William W. Smith, regius keeper, Royal Botanic Garden. Received May 19, 1923.

A robust perennial about 4 feet high, first discovered in Yunnan, China, by George Forrest. It bears rounded terminal spikes of small rosy flowers which are followed by dense club-shaped masses of black fruits. The plant has flowered and fruited freely at the Royal Botanic Garden, Edinburgh, Scotland. (Adapted from *Gardeners' Chronicle*, ser. 3, vol. 71, p. 39.)

56801 and 56802. SORGHUM spp. Poa- ceæ.

From Salisbury, Rhodesia. Seeds presented by H. G. Mundy, Chief Agriculturist and Botanist of the British South Africa Co., through H. N. Vinall, Bureau of Plant Industry. Received June 7, 1923. Quoted notes by Mr. Mundy.

Introduced for department agronomists.

56801. *SORGHUM ARUNDINACEUM* (Willd.) Stapf.

"This is called locally 'perennial Sudan grass'; it is closely related to Sudan grass. In its natural habitat it grows on heavy, black, fertile lands and is apparently quite

¹ It should be understood that the varietal names of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Seed and Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their identity fully established, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized American codes of nomenclature.

56801 and 56802—Continued.

perennial. It does not spread by underground roots but volunteers very freely from seed, especially where the land has been cultivated. The stems are somewhat woodier and more canelike than those of Sudan grass."

56802. *SORGHUM VERSICOLOR* Anderss.

"This is called locally 'black Sudan grass.'"

56803. *SOLANUM TUBEROSUM* L. Solanaceæ. **Potato.**

From Bogota, Colombia. Tubers presented by Brother Ariste Joseph. Received June 8, 1923.

"The yellow-fleshed potato is one of the most interesting varieties found in the Andean region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as those of some other varieties; but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor suggesting that of the chestnut. It seems to me the variety might be improved, so as to do away with the objectionable eyes, and that it would then be worth extensive cultivation." (*Wilson Popenoe.*)

56804. *TETRASTIGMA* sp. Vitaceæ.

From Belgian Congo. Seeds presented by C. Passau, Kilometer 309, near Kongolo. Received June 5, 1923.

"An annual climber greatly resembling the grape in habit, fruits, and general appearance, with non-woody stems from 30 to 50 feet in length. The plant seems to require having its feet in the shade and its head in the sun; it is never found in real forests, but grows up through underbrush." (*Passau.*)

56805. *CUCUMIS SATIVUS* L. Cucurbitaceæ. **Cucumber.**

From Jaipur, Rajputana, India. Seeds presented by Sir James Roberts. Received April 2, 1923.

"This cucumber is from Malwa, Central India. It is 18 to 20 inches in length and thicker and more fleshy than the ordinary cucumber varieties. It is grown in the rainy season, and as the Malwa Plateau is nearly 2,000 feet above sea level the temperature at that season is lower than in many parts of India. I believe that this variety should do well in the warmer parts of the United States." (*Roberts.*)

56806. *TRIFOLIUM PRATENSE* L. Fabaceæ. **Red clover.**

From Reading, England. Seeds presented by Sutton & Sons. Received April 2, 1923.

Wild red clover.

Introduced for department specialists engaged in clover breeding.

56807. *TRIFOLIUM PRATENSE* L. Fabaceæ. **Red clover.**

From Groningen, Netherlands. Seeds purchased from C. Broekema, manager, Groninger Zaaizaadvereeniging.

Rozendaal red clover.

Introduced for department specialists engaged in clover-breeding investigations.

For previous introduction, see S. P. I. No. 54889.

56808 to 56810.

From Verrieres le Buisson, Seine et Oise, France. Presented by A. Meunissier. Received April 3, 1923.

56808. *CARAGANA BOISI* C. Schneid. Fabaceæ.

Seeds of a handsome bush 10 to 12 feet high, with long, arching branches, native to Szechwan and eastern Tibet, China. In May the light-green foliage and numerous yellow flowers make this an especially attractive ornamental. (Adapted from letter of A. Meunissier, May 18, 1923.)

56809 and 56810. *CRATAEGUS LAVALLEI* Herincq. Malaceæ. **Hawthorn.**

"A tree of garden origin with pure-white flowers and red fruits an inch in diameter, well displayed by the rich-brown leaves in autumn." (*H. C. Skeels.*)

For previous introduction, see S. P. I. No. 54078.

56809. Seeds.

56810. Scions.

56811. *IRIS* sp. Iridaceæ. **Iris.**

From western Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received April 3, 1923.

"(February 6, 1923.) Seeds collected from a fruiting plant about 2 feet high found in the snow at an altitude of 8,800 feet on the crater of the extinct volcano Tayinshan, near Tengyueh. The natives say that this is a very handsome plant with large, purplish blue flowers." (*Rock.*)

56812 to 56819. *ZIZIPHUS MAURITIANA* Lam. (*Z. jujuba* Lam., not Mill.) Rhamnaceæ. **Bor.**

From Poona, Bombay, India. Seeds presented by G. S. Cheema, Horticulturist to the Government of Bombay, College of Agriculture. Received April 4 and 11, 1923.

"The bor, or Indian jujube, is grown throughout India for its fruits, which are usually small and more or less spherical in the wild forms. The cultivated kinds which have been selected are larger and oval or oblong in shape. When cooked some of the varieties have a very pleasing acid flavor not unlike that of plums. The bor is a valuable fruit for the warmer parts of Florida and other Southern States, and merits serious consideration as a home fruit in these sections." (*C. C. Thomas.*)

For previous introduction, see S. P. I. No. 55485.

56812. No. 13.

56816. No. 17.

56813. No. 14.

56817. No. 19.

56814. No. 15.

56818. No. 21.

56815. No. 16.

56819.

56820. *ROSA SEMPERVIRENS* L. Rosaceæ. **Rose.**

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received April 12, 1923.

A shrubby wild rose which grows in hedgerows and rather dry situations in the southern and western parts of France. The shining green leaves, composed of five to seven leaflets, are persistent throughout all or part of the winter, and the single white flowers appear from May to July. There are a number of horticultural forms cultivated as ornamentals. (Adapted from *Bonnier, Flore Complète de France*, vol. 4, p. 6, pl. 181.)

For previous introduction, see S. P. I. No. 32960.

56821. ANDROCYMBIUM PUNCTATUM
(Cav.) Baker. Melanthaceæ.

From Tripoli, Libia, North Africa. Bulbs presented by E. O. Fenzi. Received April 4, 1923.

A stemless ornamental of the Amaryllis family, native to the Cape of Good Hope. The flowers, whitish with green veins and purple stamens, are in a dense umbel surrounded by about four narrow, spreading, bright-green leaves 5 or 6 inches long. (Adapted from *Gardeners' Chronicle*, vol. 1, new series, p. 786.)

56822. GARCINIA MANGOSTANA L. Clusiaceæ. **Mangosteen.**

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, General Experiment Station, Department of Agriculture, Industry, and Commerce. Received April 11, 1923.

Mangosteen seeds introduced from Java for testing in our tropical dependencies.

For previous introduction, see S. P. I. No. 56667.

56823 to 56829.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received April 2, 1923. Quoted notes by Mr. Rock.

56823. GORDONIA sp. Theaceæ.

"(No. 7884. Tienyinssu. January, 1923.) A shrub about 8 feet high found at an altitude of 6,000 feet. The handsome white flowers are 1½ inches across, and the fruit is a woody capsule."

56824. LIGUSTRUM sp. Oleaceæ. **Privet.**

"(No. 7877. Wolung. January, 1923.) A very ornamental shrub 10 feet high which grows among lava boulders near Tengyueh at an altitude of 6,000 feet. The cream-colored flowers are in large pyramidal clusters."

56825. LUCULIA sp. Rubiaceæ.

"(No. 7824. December, 1922.) A handsome shrub 6 to 18 feet in height which grows on the Shweli-Salwin Divide in mixed rain forests at an altitude of 8,000 feet and also in open gulches at a slightly lower altitude, even as low as 6,000 feet, but reaches its best development at 8,000 feet. In winter this region is often covered with snow and ice. The bright-green narrow leaves have reddish stems, and the rich-pink flowers are in large terminal corymbs 6 inches wide. The individual flowers are deliciously fragrant and nearly 2 inches across, with a salver-shaped corolla and a tube an inch long. This is one of the handsomest shrubs of which I know."

56826. PITTOSPORUM sp. Pittosporaceæ.

"(No. 7886. Kaotien. January 21, 1923.) A tree 30 to 40 feet high, handsome in shape and foliage, with cream-colored flowers borne in large terminal panicles and red fruits."

56827 and 56828. RHODODENDRON spp. Ericaceæ.**56827. RHODODENDRON sp.**

"(No. 7865. Homushu. December, 1922.) A shrub 10 to 15 feet high, which grows at an altitude of 8,000 feet on the summit of the Salwin watershed in dense forests but near the margins. The oval dark-green leaves, deeply wrinkled above, are covered with matted brown wool, as is also the inflorescence. The flowers are white."

56823 to 56829—Continued.**56828. RHODODENDRON sp.**

"(No. 7866. Kaotien. January 6, 1922.) A handsome compact shrub 6 to 8 feet high, found in forests 2 days' travel from Tengyueh at an altitude of 6,500 feet. The uniformly green leaves are quite narrow, and the flowers are said to be white."

56829. SCHIMA sp. Theaceæ.

"(No. 7864. Homushu. December, 1922.) A fine tree 30 to 40 feet in height, which grows in dense forests on the Salwin watershed at an altitude of 8,000 feet. The leaves are narrowly oval, the flowers are white, and the fruits are small globular capsules. There are about four species of Schima found in Yunnan, and this one is rarer than the others."

56830. TRIFOLIUM INCARNATUM L. Fabaceæ. **Crimson clover.**

From Valence sur Rhone, France. Seeds purchased from Tézier Frères. Received April 12, 1923.

Locally grown seed introduced for department specialists engaged in clover breeding.

56831 to 56833. DIOSPYROS KAKI L. f. Diospyraceæ. **Kaki.**

From Osaki Machi, Tokyo, Japan. Seeds presented by Sengo Matsuda. Received April 6, 1923. Quoted notes by Mr. Matsuda.

Wild kaki varieties introduced as stocks for the cultivated sorts.

56831. "Gara-gara (prolific bearer). A very stout tree from the mountainous districts of Kyusiu Island. The sour fruits are pickled, and the juice is used for waterproofing purposes."

56832. "Tsurushi-gaki. This is good for using dried."

56833. "Yama-gaki. Sour fruits used for pickles."

56834 to 56837. SOJA MAX (L.) Piper. (*Glycine hispida* Maxim.) Fabaceæ. **Soybean.**

From Liaoyuanchow, Manchuria, China. Seeds presented by H. C. Chang. Received April 12, 1923. Quoted notes by Mr. Chang.

56834. "Black (green inside)."

56835. "Black (yellow inside)."

56836. "Green." **56837.** "Yellow."

56838 to 56841. MANGIFERA INDICA L. Anacardiaceæ. **Mango.**

From Honolulu, Hawaii. Plants presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received April 12, 1923. Quoted notes by Mr. Pope.

56838. "West India No. 9. This variety, now quite common in Hawaii, was introduced about 1885 under this name by Joseph Marsden.

"Description of fruit: Shape resembling the letter S; stem prominent; size from 3½ to 4½ inches long, from 2¾ to 2½ inches broad, and from 2 to 2½ inches thick; color before fruit is mature green, turning to a pale yellow when ripe, with a slight blush of pink on the upper end of the exposed side; peeling qualities very good; texture variable but in most specimens rather fibrous; flesh light yellow, sweet but watery; seed small; tree an abundant bearer. The fruit appears to be quite resistant to the attacks of the mango blight."

56838 to 56841—Continued.

56839. "*Kalihi chutney* mango. Original tree supposed to be a cross between West Indian No. 5 and some other mango. It grows near the Kalihi stream, King Street, Honolulu. The tree is vigorous and prolific, and the fruit is large, handsome, and of excellent quality.

"Description of the fruit: Size medium to large; shape almost round with blunt double apex; weight varying from 8 to 12 ounces; weight of seed about three-fourths ounce; color, a beautiful golden apricot, splashed with a few irregular dashes of bright red about the shoulder, yellow dots visible all over the surface of the fruit. Flesh yellow to orange-yellow, firm, with little fiber and of a most delicious rich flavor. An excellent keeper."

56840. "*Victoria* mango. The original tree, *Victoria* No. 9, is a seedling growing on the residence property of Thomas G. Thrum, Honolulu, Hawaii. During the eighties a number of mango seeds were brought from the West Indies by Joseph Marsden, a Government official of Hawaii. Among the seedlings developed from the introduced seeds was one known as No. 9. In 1897 a seed of this No. 9 was given to Mr. and Mrs. George Ashley. Mrs. Ashley germinated this seed, setting it in the front yard in its present location on June 20, 1897, the date of the Diamond Jubilee of Queen Victoria of England. For this reason the tree was called *Victoria* No. 9. When it fruited it was discovered that the fruit was different from any of the other mangos growing in Hawaii, particularly in color. Its qualities are superior to any of those mangos formerly brought to Hawaii by Mr. Marsden.

"The tree has proved to be very prolific, often producing as many as three distinct crops per year. The fruits are but little clustered, generally hanging singly on individual stems. From the time the fruits set they are red, becoming more brilliant on ripening. Like some other mangos, the *Victoria* No. 9 reproduces its quality of fruit fairly true on seedling trees.

"Description of the fruit: Size medium, weight about 9 ounces; shape oblong, slightly S shaped and necked somewhat at the stem end; apex broadly rounded with curve ending in a small blunt beak which sometimes contains a small hole-like depression; color when ripe shaded with brilliant vermilion over yellow ground color which is most evident at apex. Surface marked with small yellow dots which become indistinct where red is deepest. Shoulder of fruit has delicate powdery bloom. Skin of medium thickness, strong enough to peel well. Odor pleasant. Ripe flesh a deep rich yellow, of good texture; juice sweet acid and of flavor of the Pirie mango. Seed small, weight three-fourths of an ounce. In marketing qualities this ranks among the best varieties in Hawaii."

For previous introduction, see S. P. I. No. 54690.

56841. "*Whitney* mango. Original tree a seedling of the sweet Hawaiian mango, growing in the yard of Dr. J. M. Whitney, 1325 Punahou Street, Honolulu. This variety grows large and vigorous and is a prolific bearer.

"Description of fruit: Size medium; shape oblong, broader than thick, with a rather extended, pointed apex; weight 8 to 10 ounces; color when ripe light greenish yellow with light dots; skin rather tough; peeling qualities fair. Flesh light yellow, without fiber, melting, sweet, and of excellent flavor. It is claimed that the fruit of this variety has never shown signs of having been stung by the fruit fly. A good variety for the fresh-fruit market."

56842 to 56849. *ARACHIS HYPOGAEA* L.
Fabaceæ. Peanut.

From Buitenzorg, Java. Seeds presented by Carl Hartley. Received April 12, 1923. Quoted notes by Mr. Hartley.

56842 to 56848. "The following numbers are of the Holle type. This type has a seed considerably heavier than the Broel and, of course, a larger pod. It is also an early-ripening bunch type, though not quite as pronounced in these characters as the Broel. It is ordinarily harvested on low and middle elevations in Java in 100 days after the seed is sown. It is by far the most popular type. It is my understanding that these varieties were tried by the United States Department of Agriculture in South Carolina last year and that they indicated high yielding ability but a much longer growing period than in Java."

56842. "No. 50. Obtained from Menado."

56843 to 56846. "From native sources in Java."

56843. No. 52. 56845. No. 66.

56844. No. 64. 56846. No. 67.

56847. "No. 77. The so-called 'Pure Line 21' of the Department of Agriculture's selection station at Buitenzorg. This is probably the best number from the standpoint of productiveness."

56848. "No. 78. The so-called 'White Hybrid No. 3' of this station."

56849. "*Broel*. This is a mixture of various Broel races from Java and Sumatra. The Broel is a very early ripening bunch type with small pods and short nuts. It is cultivated to a considerable extent in eastern Java on soils which are poor and on which other varieties showed too high a percentage of unfilled pods. In general, it is not as popular as the Holle type. It corresponds very closely to the American type known as 'Spanish.'"

56850. *TRIFOLIUM PRATENSE* L. Fa-
baceæ. Red clover.

From Copenhagen, Denmark. Seeds presented by H. N. Knudsen, Danish Royal Agricultural Society. Received April 12, 1923.

"*Hersnap*. This is a Danish strain and has given, with us, a higher yield than foreign seed." (Knudsen.)

Introduced for department specialists engaged in clover-breeding investigations.

For previous introduction of this variety, see S. P. I. No. 56285.

56851 and 56852. *ANANAS* sp. Bro-
meliaceæ. Pineapple.

From Vicosia, Minas Geraes, Brazil. Seeds presented by P. H. Rolfs, director, Escola Superior de Agricultura e Veterinaria. Received April 13, 1923. Quoted notes by Mr. Rolfs.

"These are considered to be wild pineapples and are very abundant here. In general the fruits are cylindrical, about 4 inches in diameter and 6 inches long. The crowns are medium sized in comparison with the size of the fruit, and crown slips are produced as well as basal ones. In color the fruits vary from white to dull green and red. The leaves are long and narrow, with very rigid and very sharp spines set quite a distance apart; they remind one of the leaves of the *Ananas ratao* of the Cubans, which also grows wild here. The bract which subtends each segment of the fruit is so large that, when the fruit is ripe, the bract laps over the subtended segment. These pineapples should be useful in hybridization experiments."

56851 and 56852—Continued.

56851. "(No. 1. March 12, 1923.) From several fruits."

56852. "(No. 2. March 12, 1923.) From one fruit."

For illustrations of this pineapple, see Plate I.

56853. MEDICAGO SATIVA L. Fabaceæ. Alfalfa.

From Tucuman, Argentina. Seeds presented by W. E. Cross, Estación Experimental Agrícola. Received April 13, 1923.

"*Inverniza No. 3*. A new variety which we discovered in this section; it is of the same type as the smooth form of Peruvian alfalfa, but of considerably greater vigor and also of greater permanence when once established." (Cross.)

56854 and 56855.

From Avondale, Auckland, New Zealand. Seeds presented by H. R. Wright. Received April 13, 1923. Quoted notes by Mr. Wright.

56854. CUCURBITA PEPO L. Cucurbitaceæ. Vegetable marrow.

"This is the vegetable marrow as grown by the natives of New Zealand. It is a good keeper and can be used either green or ripe."

56855. PHYSALIS PERUVIANA L. Solanaceæ. Poha.

"*Golden Nugget*. A new variety of Cape gooseberry. It is not a dessert fruit, but is suitable for making jam."

56856. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Helsingfors, Finland. Seeds purchased through Leslie A. Davis, American consul, from Centralandelslaget Labor m. b. t. Received April 13, 1923.

"This strain has been cultivated in Finland for about 34 years." (Ernst Hasselblatt.)

Introduced for the use of department specialists engaged in clover breeding.

56857. RHODODENDRON DELAVAYI Franch. Ericaceæ. Rhododendron.

From Tengyueh, Yunnan, China. Seeds collected by J. F. Rock, Collaborator of the Bureau of Plant Industry.

"(No. 7935. February 20, 1923.) A shrub 5 to 6 feet high which grows on the summit of the extinct volcano, Lutsungshan, at an altitude of 9,050 feet, about 10 miles north of Tengyueh. The very narrow leaves are pale brown beneath, and the crimson flowers, which are not fragrant, are in terminal clusters. This is the first of all the rhododendrons to bloom, the flowers appearing in early February." (Rock.)

For previous introduction, see S. P. I. No. 56355.

56858 and 56859. TRITICUM AESTIVUM L. (T. vulgare Vill.) Poaceæ. Common wheat.

From Magyarovar, Hungary. Seeds presented by J. Gyárfás, director, Hungarian Agricultural Experiment Station for Plant Research. Received April 13, 1923. Quoted notes by Mr. Gyárfás.

56858. "*Bankuti No. 5*. Hungarian selected wheat; one of the best varieties and excellent for baking."

56859. "*Bankuti Marquis No. 4*. Selected Marquis wheat grown in Hungary."

56860 and 56861. VICIA spp. Fabaceæ. Vetch.

From Omagari, Akita Ken, Japan. Seeds presented by Dr. Isabura Nagai, director, Riku-u substation, Agricultural Experiment Station. Received April 17, 1923. Quoted notes by Dr. Nagai except as otherwise stated.

56860. VICIA TETRASPERMA (L.) Moench.

"*Kasuma gusa*."

An annual vetch found throughout Europe except in the extreme north and south. The stems, usually smooth, climb to a maximum height of 20 inches. The leaflets are very narrow and small, and the flowers vary in color from bluish to lilac, with violet veins. (Adapted from Ascherson and Graebner, *Synopsis der Mitteleuropäischen Flora*, vol. 6, pt. 2, p. 912.)

56861. VICIA UNIUGA A. Br.

"*Nantenhagi*."

"An erect-growing plant which would appear to be valuable as a forage plant on wooded pasture ground in the cooler sections of the United States." (Frank N. Meyer.)

A perennial vetch, native to Siberia, with an upright or ascending stem 8 to 16 inches long and rather large, purplish flowers. It is sometimes cultivated in European gardens as an ornamental. (Adapted from Ascherson and Graebner, *Synopsis der Mitteleuropäischen Flora*, vol. 6, pt. 2, p. 919.)

56862 to 56867. ZEA MAYS L. Poaceæ. Corn.

From Krizevac, Croatia, Yugoslavia (Kingdom of the Serbs, Croats, and Slovenes). Seeds presented by the director, Royal Agricultural College, Krizevac, through J. F. McGurk, American consul, Zagreb. Received April 16, 1923. Quoted notes by the director.

56862 to 56865. "Grown at the college for many years."

56862. "*Krizevacka okrugla Hrvatica* (Croatian maid of Krizevac), a very good and fruitful sort, which ripens early and flourishes even in colder parts."

56863. "*Rumski zlatni zuban* (gold-kernel corn of Ruma, a town in Syrmia), a late very prolific kind. It does not always ripen with certainty in Krizevac, but in the lowlands along the Danube, Save, and Theiss Rivers, where the climate is somewhat like that of the steppes, with very hot summers, it ripens well."

56864. "*Krivacki hangari* (Krizevac warrior). An especially early kind, perhaps the earliest known. It originated in the Bosnian Mountains. It can be sown also in high mountain regions, and in upper Croatia it is sown after the field has been cleared of the winter barley, and ripens regularly."

56865. "*Krizevacki Pignoletto*, an early sort with tiny grains, very suitable and popular for human consumption. Has been grown a long time in Krizevac."

56866 and 56867. "Varieties raised by peasants."

56866. "*Krizevacki zuban* from the vicinity of Krizevac, a variety that ripens under conditions halfway between those mentioned in 1 [S. P. I. No. 56862] and 2 [S. P. I. No. 56863]."

56867. "*Hercegovacki* (the Herzegovian) from the mountains of Herzegovina, where the ground is stony, the winters severe, and the summers hot and dry, a climate which is very unfavorable for corn."

**56868 and 56869. ACACIA spp. Mimosa-
osaceæ.**

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received April 19, 1923.

56868. ACACIA CARDIOPHYLLA A. Cunn.

"Weeping wattle. This native tree is one of the most beautiful wattles that I know of." (Baker.)

56869. ACACIA VERNICIFLUA A. Cunn.

A slender, much-branched shrub, with leathery, very narrow phyllodia [leaflike stems] about 2 inches in length, and deep-yellow flowers in small heads which are generally in pairs. It is native to the barren hills around Bathurst, New South Wales. (Adapted from *Curtis's Botanical Magazine*, pl. 3266.)

**56870. TRIFOLIUM PRATENSE L. Fa-
baceæ. Red clover.**

From Helsingfors, Finland. Seeds purchased through Leslie A. Davis, American consul, from Keskusosuusliike Hankkija r. 1. Received April 13, 1923.

"This strain has been cultivated in Finland for about 34 years." (*Ernst Hasselblatt*.)

Introduced for the use of department specialists engaged in clover breeding.

**56871 and 56872. POPULUS TREMULA
L. Salicaceæ. Aspen.**

From Svalof, Sweden. Presented by N. H. Nilsson, Sveriges Utsädesforening. Received April 24, 1923.

Var. *erecta*.

"This is a mutation of the ordinary aspen and is found in the woods in this vicinity. Especially interesting is the fact that it strongly resembles the Lombardy poplar, which is a very similar mutation of *Populus nigra*." (*Nilsson*.)

56871. Plants. 56872. Cuttings.

**56873 and 56874. ZEA MAYS L. Poa-
cæ. Corn.**

From Bengazi, Cyrenaica, Libia, North Africa. Seeds presented by the director, Economic and Financial Affairs. Received April 25, 1923. Quoted notes by the director.

"These native varieties of maize are grown under irrigation in Cyrenaica. Attempts to grow them in dry culture have not resulted favorably."

56873. "From Derna."

56874. "From Bengazi."

**56875. CERATONIA SILIQUA L. Cæsal-
piniaceæ. Carob.**

From Lisbon, Portugal. Budwood presented by Capt. Mendes d'Almeida, through W. Stanley Hollis, consul general. Received April 28, 1923.

Sent in response to a request for cuttings of the best varieties of carob grown in Portugal.

For previous introduction, see S. P. I. No. 55464.

**56876 to 56878. TRITICUM AESTIVUM
L. (*T. vulgare* Vill.) Poaceæ.
Common wheat.**

From Villiers Saint Georges, France. Seeds presented by Hector Gagneux. Received April 23, 1923. Quoted notes from catalog of Hector Gagneux, autumn, 1923.

56876 to 56878—Continued.

56876. "*Blé de Silène*. A variety with white straw, a long white head, and white kernels. It is a selection from *Hybride des Alliés*, to which it is superior in its resistance to disease and lodging."

56877. "*Le Cérés*. This is claimed by its originators to be the finest variety known; our experiments with it allow us to confirm in a measure this statement. It is remarkably vigorous with white heads and clear-yellow kernels which are much appreciated in the milling industry. The variety is very resistant to cold and almost never lodges. Season medium early."

56878. "*Hybride Inversable*. An early and very vigorous variety which requires rich and well-prepared soil for its best development. It is very resistant to lodging."

**56879. HAKEA ACICULARIS (Vent.)
Knight. Proteaceæ.**

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received April 12, 1923.

A tall evergreen shrub or small bushy tree, native to Australia, with very handsome foliage which is rigid and spiny, thus serving to protect the plant against animals. The plant is suitable for hedges and shrubberies, is quite hardy, and requires but little moisture or cultivation. (Adapted from *University of California Publications, Botany*, vol. 4, p. 19.)

For previous introduction, see S. P. I. No. 40047.

**56880 to 56882. TRIFOLIUM PRATENSE
L. Fabaceæ. Red clover.**

From Bologna, Italy. Seeds purchased from Ditta E. Pini, through Asher Hobson, American representative, International Institute of Agriculture, Rome. Received April 20, 1923. Quoted notes by Mr. Pini.

Locally grown seed introduced for department specialists engaged in clover breeding.

56880. "From Emilia."

56881. "From Marches."

56882. "From Umbria."

**56883 to 56891. COIX LACRYMA-JOBI
MA-YUEN (Rom.) Stapf. Poaceæ.
Ma-yuen.**

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture, at the request of P. J. Wester. Received April 23, 1923.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, Bureau of Agriculture, Manila, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

56883. *Batangas*.

56884. *Cotabato Brown*.

56885. *Cotabato White*.

56886. *La Union White*.

56887. *Lamiao No. 1*.

56888. *Lamiao No. 2*.

56889. *Lamiao White*.

56890. *Momungan*.

56891. *Mountain Province*.



FIG. 1.—HABITAT OF THE WILD PINEAPPLE (*ANANAS* SP.; S. P. I. Nos. 56851 AND 56852)

The origin of the cultivated pineapple is obscure. The Spaniards found it growing in the gardens of the Indians when they reached tropical America at the end of the fifteenth century. It seems probable that the cultivated varieties were derived from one or more of the wild forms which are still found in the central part of Brazil. The environmental conditions under which one of these forms occurs is shown in the above reproduction of a photograph taken by Professor Rolfs near Vicosá, in the State of Minas Geraes, at an altitude of about 650 meters (approximately 2,130 feet)



FIG. 2.—A WILD PINEAPPLE FROM CENTRAL BRAZIL (*ANANAS* SP.; S. P. I. Nos. 56851 AND 56852)

Plant breeders occupied with the production of new pineapple varieties will be interested in this wild form sent from the State of Minas Geraes by Professor Rolfs. The fruits, which are about 6 inches long and 4 inches in diameter, are whitish green, dull green, or nearly red; they have whitish flesh of acid flavor. It seems possible that this form may be the wild prototype of some of the cultivated pineapples; it occurs abundantly on the rolling plains of central Brazil. (Photographed by P. H. Rolfs, Vicosá, Minas Geraes, Brazil)



FIG. 1.—BARLEY GROWING IN AN ALGERIAN OASIS (*HORDEUM VULGARE PALLIDUM* SERINGE; S. P. I. NO. 57052)

In the endeavor to secure new cereal strains for use in improving varieties now being cultivated in the United States, the United States Department of Agriculture recently sent abroad an experienced cerealist to look for promising types. Among the places visited were a number of the larger oases in northern Africa. The illustration shows a plat of barley, probably a winter variety, growing in the oasis of Temacin, Algeria. Seeds of this variety were obtained for testing in the warmer portions of the semiarid Southwest. (Photographed by H. V. Harlan, April 5, 1923)



FIG. 2.—MARIOUT BARLEY IN ITS ORIGINAL HOME (*HORDEUM VULGARE PALLIDUM* SERINGE; S. P. I. Nos. 57637 to 57639)

The semiarid region in the vicinity of Lake Mariut, northern Egypt, has the distinction of being the home of the original Mariout barley, from which many selections have been made. This region probably has the lowest rainfall of any in the world in which crops are grown, and seed was secured here of a number of promising barley types which may prove of great value in sections of the United States where drought resistance in cereals is essential. (Photographed by H. V. Harlan, Burg el Arab, Egypt, May 7, 1923)

56892. AVENA SATIVA L. Poaceæ.**Oats.**

From Wageningen, Netherlands. Seeds presented by Dr. R. J. Mansholt, Royal Netherlands College of Agriculture. Received May 1, 1923.

Mansholt III. A variety obtained by selection from *Victoire de Svalof*. Its chief characteristics are straw fairly short, very thick, stiff; grain white and plump like that of *Victoire de Svalof*, but distinctly larger; season early. It is an excellent variety, very resistant to lodging. It should not be grown on poor, light soils, as it requires rich, well-fertilized land. (Adapted from *International Review of the Science and Practice of Agriculture, Monthly Bulletin of Agricultural Intelligence*, vol. 13, p. 331.)

56893 to 56895. TRIFOLIUM INCARNATUM L. Fabaceæ. Crimson clover.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received May 1, 1923. Quoted notes by Vilmorin-Andrieux & Co.

Introduced for department specialists engaged in clover breeding.

56893. "A late crimson clover."

56894. "An early crimson clover."

56895. "A very late white-flowered crimson clover."

56896 to 56898. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Lausanne, Switzerland. Seeds purchased from Dr. G. Martinet, director, Seed-Control Station. Received May 1, 1923. Quoted notes by Doctor Martinet.

Introduced for department specialists engaged in clover breeding.

56896. "No. 1021. Descended from the celebrated variety of Winkel, near Bulach, Switzerland. It is of rapid growth, yields heavily, and can be used for two years after seeding."

56897. "No. 943 (*Mattenklee*). A long-enduring variety which yields well and renews itself from time to time. The seeds are almost entirely yellow."

56898. "No. 950 (*Mattenklee*). A long-enduring variety which gives abundant forage and seeds; the latter are dark violet."

56899 to 56901.

From Svalof, Sweden. Seeds presented by N. H. Nilsson, Sveriges Utsädesforening. Received May 1, 1923.

56899 and 56900. AVENA SATIVA L. Poaceæ. Oats.

56899. *Orion*. An early-ripening black oat obtained at Svalof, Sweden, by crossing *Ligowo* and *0668*, a line from a Norwegian variety. *Orion* ripens two days earlier than the earliest variety known in Norrland and is distinctly superior to the variety *Guldregn*. In regard to yield, *Orion* has produced 5.5 per cent more grain and 7.5 per cent more straw than *Mesdag*. In short, *Orion* is very satisfactory because it produces a heavy crop of grain of good quality, ripens early, and has stiff straw. (Adapted from *International Review of the Science and Practice of Agriculture, Monthly Bulletin of Agricultural Intelligence*, vol. 13, p. 657.)

56899 to 56901—Continued.

56900. *Odal*. In the attempt to obtain an early variety of oats with the good qualities of the late variety *Guldregn*, a cross between the latter variety and *Dala* yielded a strain, *01163 b*, in which the desired characters were obtained. *Odal* does not head early, but ripens quickly. In regard to yield, *Odal* produces on an average 9 per cent more grain than *Dala*, but, owing to the shortness of the stems, gives less straw than either *Dala* or *Guldregn*. In its resistance to lodging, *Odal* is nearly equal to *Guldregn*. (Adapted from *International Review of the Science and Practice of Agriculture, Monthly Bulletin of Agricultural Intelligence*, vol. 13, p. 321.)

56901. PHLEUM PRATENSE L. Poaceæ.**Timothy.**

Gloria. A high-yielding strain, developed at Svalof by Dr. Hernfried Witte.

56902 to 56904. ZEA MAYS L. Poaceæ. Corn.

From Peru. Seeds presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics. Received April 20, 1923. Quoted notes by Mr. Bullock.

56902. "(Cuzco. January, 1923.) From Sr. Gallegos, Comisionado Agronómico."

56903. "(Cuzco. January, 1923.) From T. E. Payne. Grown under irrigation at about 7,000 feet altitude."

56904. "(Same.) From Sr. Mendoza. Grown at a low altitude under irrigation."

56905. ZEA MAYS L. Poaceæ. Corn.

From La Paz, Bolivia. Seeds presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics. Received April 20, 1923.

"(January, 1923.) Bought in the market." (*Bullock*.)

56906. PHYLLOCARPUS SEPTENTRIONALIS Donn.-Smith. Cæsalpiniaceæ.

From El Barranquillo, Guatemala. Seeds purchased from Fernando Carrera through A. C. Frost, American consul, Guatemala. Received May 3, 1923.

"A magnificent flowering tree found in sandy loam in eastern Guatemala at 1,500 to 2,000 feet altitude. It is of broad, spreading habit, 40 to 50 feet high, with light-green compound leaves. In January and February the tree is a mass of crimson-scarlet flowers, each about an inch broad, borne in small clusters." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 51409.

56907. ANANAS sp. Bromeliaceæ. Wild pineapple.

From Bello Horizonte, Minas Geraes, Brazil. Seeds presented by P. H. Rolfs, director, Escola Superior de Agricultura e Veterinaria. Received May 5, 1923.

"A wild pineapple known locally as 'ananás.' The fruit is more cylindrical than that of *Red Spanish*." (*Rolfs*.)

Introduced for department specialists engaged in pineapple breeding.

56908 and 56909.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received May 5, 1923.

56908. *ABUTILON MOLLISSIMUM* (Cav.) Sweet. Malvaceæ.

An annual bushy plant, usually 4 to 5 feet high, but reported to reach a height of 10 feet in Peru, where it is native. The stem and the large, very soft, heart-shaped leaves are quite hairy, and the solitary axillary flowers, about an inch long, are sulphur yellow. (Adapted from *Cavanilles, Secunda Dissertatio Botanica*, p. 49, No. 67.)

56909. *FRANCOA SONCHIFOLIA* (Willd.) Cav. Saxifragaceæ.

A rather shrubby ornamental about 3 feet high, with bright-green, downy, wavy-margined leaves, handsome lilac-colored flowers in long, erect, spike-like racemes. The plant is native to Chile. (Adapted from *Curtis's Botanical Magazine*, pl. 3309.)

56910. *POA AUSTRALIS* R. Br. Poaceæ.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received June 6, 1923.

"Collected near Lake Tiberias at an altitude of about 1,400 feet. This is a rather cold area with a light rainfall." (Evans.)

This is the most abundant grass in many districts of South Island, New Zealand, and is also plentiful in the elevated central portions of North Island. It is seldom eaten by stock, however, except in the absence of better feed. (Adapted from *Cheeseman, Manual of the New Zealand Flora*, p. 908.)

Introduced for department agrostologists.

For previous introduction, see S. P. I. No. 31503.

56911. *COLOCASIA ESCULENTA* (L.) Schott. Araceæ. Dasheen.

From Canton, China. Tubers presented by G. Weidman Groff, director, Canton Christian College. Received May 7, 1923.

"A taro, or dasheen, of good quality. The sprouts are distinctly reddish. The tubers are said to be small and quite uniformly elliptical and the leaves dark green. The variety is also reported to yield well." (E. A. Young.)

56912 to 56919. *SOLANUM TUBEROSUM* L. Solanaceæ. Potato.

From Nemecky Broad, Czechoslovakia. Tubers presented by the Czechoslovakia Experiment Station for Potato Culture. Received May 14, 1923.

"These Czechoslovakian varieties came from the Czechoslovakia Experiment Station for Potato Culture, where they were grown under careful supervision and are claimed to be free from disease. They are introduced for breeding and disease-resistance investigations." (Dr. E. H. Myers.)

56912. *Cesky zelenac*.

56913. *Fakutske*.

56914. *Janovky*.

56915. *Nolcovy rohlicky*.

56916. *Podhajky*.

56917. *Ranne Hradce*.

56918. *Vaclavaka*.

56919. *Visnovske rohlicky*.

56920 to 57012. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceæ. Sweetpotato.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received May 2, 1923. Quoted notes by Mr. Thompson.

56920. "No. 7. A Big Wig seedling. The vine is 3 to 4 feet in length. It is very leafy and covers the ground completely with a dense leafy mass. The leaves are green, broadly shouldered, and lanceolate. The roots are red."

For introduction of tubers under this number, see S. P. I. No. 56714.

56921. "No. 11. A Big Wig seedling. The vines are 2 to 3 feet in length. The leaves are lancetlike and range from small to medium in size. The roots are white."

56922 to 56928. "No. 18. A Big Wig seedling. This is a rampant grower, the vines reaching out for 8 or 10 feet or more on either side of the row. It flowers profusely. The roots are red."

For introduction of tubers under this number, see S. P. I. No. 56717.

56922. (No. 1.) 56926. (No. 5.)

56923. (No. 2.) 56927. (No. 6.)

56924. (No. 3.) 56928. (No. 7.)

56925. (No. 4.)

56929 to 56931. "No. 26. A Big Wig seedling. In the nursery row this seedling shows short vine growth with rather sparse foliage. The stems are short and stout, attaining a maximum length of 2 to 3 feet. The leaves are lanceolate with a wine-colored midrib. The tubers are dark red and grow at the ends of fleshy roots that are 12 to 18 inches long. The tubers are traversed by a number of pronounced ribs or veins. The original seedling yielded 4 pounds of tubers under very adverse conditions."

For introduction of tubers under this number, see S. P. I. No. 56722.

56929. (No. 1.) 56931. (No. 3.)

56930. (No. 2.)

56932 and 56933. "No. 36. A Big Wig seedling. Stems rather slender to medium and 2 to 4 feet in length. Leaves small and cordate. The original seedling plant produced 1 pound 6 ounces of smooth white tubers."

56932. (No. 1.) 56933. (No. 2.)

56934 and 56935. "No. 31. A Big Wig seedling. In the nursery row the vines are strong but short and sparsely leaved. The leaves are small with five deeply cut lobes. This variety shows a tendency to produce tubers at the nodes of the vines where they attach themselves to the soil. The tubers are a light red or rose. The original seedling yielded 38 tubers weighing 5¼ pounds."

For introduction of tubers under this number, see S. P. I. No. 56726.

56934. (No. 1.) 56935. (No. 2.)

56936 to 56940. "No. 36."

For description, see S. P. I. Nos. 56932 and 56933.

56936. (No. 3.) 56939. (No. 6.)

56937. (No. 4.) 56940. (No. 7.)

56938. (No. 5.)

56920 to 57012—Continued.

56941. "No. 45. A Big Wig seedling. In the nursery row this bore short leafy stems 24 to 30 inches long which afforded perfect protection to the hill. The leaves are dark green and cut and lobed similar to those of the Big Wig parent. The original seedling plant yielded eight small tubers weighing 15 ounces. The tubers are dark red. The flesh is yellow with a pink underskin."

56942. "No. 50. A Black Rock seedling. In the nursery row this seedling had short stems 12 to 18 inches long. The leaves are deeply cut with five lobes and are dark green with red midribs and veins. The tubers are dark red."

56943 and 56944. "No. 55. A Black Rock seedling. The stems are 2 to 3 feet long in our nursery row. The leaves are somewhat variable in form but usually lancelike and bearing some resemblance to those of the variety grown at this station under the name of the Key West 'yam.' The tubers are dark red and are borne on the ends of long fleshy roots. The original seedling plant yielded 30 tubers weighing a total of 4¾ pounds."

For introduction of tubers under this number, see S. P. I. No. 56729.

56943. (No. 1.) 56944. (No. 2.)

56945. "No. 58. A Black Rock seedling. The vine is 2 to 3 feet in length and very leafy. The leaves are cordate and rounded and the younger ones are wine colored, especially around the margins. The tubers are dark red. The original seedling plant bore 37 tubers weighing 5 pounds."

For introduction of tubers under this number, see S. P. I. No. 56731.

56946. "No. 74. A Big Wig seedling. Stems slender, leafy, 3 to 5 feet long or more. The leaves are small and have five lobes. The roots are red."

56947. "No. 75. A Big Wig seedling. Vines 2 to 4 feet in length and leafy. Leaves dark green, broad, 3 pointed; midribs and veins red. Tubers red. The original seedling plant yielded 18 tubers weighing 2¼ pounds."

56948 to 56951. "No. 92. A Big Wig seedling. Vines long and slender. Leaves small, broad as compared with length, lobed but not deeply cut. The yield of the original seedling plant was 19 tubers weighing 1 pound. The tubers were small, red, and borne at the nodes as far as 10 feet from the hill."

56948. (No. 1.) 56950. (No. 3.)

56949. (No. 2.) 56951. (No. 4.)

56952. "No. 103. A Big Wig seedling. A small, bunching, rather unthrifty vine. The roots are of a light red or rose."

56953 to 56955. "No. 106. A Big Wig seedling. The vines are from 1 to 3 feet long and sparsely clothed with small green lanceolate leaves. The original seedling hill yielded three tubers weighing 10 ounces. The tubers were dark red."

56953. (No. 1.) 56955. (No. 3.)

56954. (No. 2.)

56956. "No. 112. A Big Wig seedling. Vines 1 to 3 feet in length and rather sparsely leaved. Leaves small, light green with three or five lobes and green midribs and veins. The original seedling plant bore three light-red tubers weighing 6 ounces."

56920 to 57012—Continued.

56957. "No. 122. A Big Wig seedling. Vines 12 to 30 inches in length. This was like the preceding, No. 112 [S. P. I. No. 56956], in that it yielded from the original seedling plant three small red tubers weighing 6 ounces."

56958. "No. 123. A Big Wig seedling. This forms bunching plants with leafy stems 12 to 18 inches long. The original seedling plant bore three light-red tubers weighing 13 ounces."

56959. "No. 125. A Big Wig seedling. The plant is rather bunching in habit. The stems are 1 to 2 feet long and leafy. Leaves dark green, cordate, resembling its Black Rock parent. The original seedling plant bore seven dark-red tubers weighing 1 pound 9 ounces."

56960 to 56963. "No. 138. A Big Wig seedling. The stems are long and leafy. The leaves are dark green and 5 lobed."

56960. (No. 1.) 56962. (No. 3.)

56961. (No. 2.) 56963. (No. 4.)

56964 to 56966. "No. 153. A Big Wig seedling. The vines were from 3 to 6 feet in length with sparse growth of leaves. The leaves were lanceolate or sometimes 3 lobed. The original seedling plant yielded 10 dark-red tubers with a total weight of 1½ pounds."

56964. (No. 1.) 56966. (No. 3.)

56965. (No. 2.)

56967. "No. 162. A Big Wig seedling. The stems are stout and 1 to 2 feet in length. The leaves are large, cordate, and strikingly ornamental. The original seedling plant yielded five tubers of a coppery red, having a total weight of 1½ pounds."

56968 to 56970. "No. 169. A Black Rock seedling. Vines in the nursery row grew to a maximum distance of 6 feet from the hill and were sparsely covered with leaves. Leaves dark green when mature, but immature ones were dark wine colored. Tubers a light yellowish pink. The original seedling plant yielded four tubers weighing 3 ounces."

56968. (No. 1.) 56970. (No. 3.)

56969. (No. 2.)

56971. "No. 188. A Black Rock seedling. The stems are long and slender and in the nursery row run to a maximum distance of 8 feet from the hill. The vine is not densely covered with leaves and makes a thin covering for the ground. The tubers are light red. The original seedling plant yielded 14 tubers weighing a total of 2 pounds 2 ounces."

56972. "No. 191. A Black Rock seedling. A low bunching leafy plant. Leaves deeply cut, with five lobes."

56973 and 56974. "No. 196. A Black Rock seedling. Stems 12 to 30 inches long, with few leaves. Leaves small, cordate, pointed."

56973. (No. 1.) 56974. (No. 2.)

56975 and 56976. "No. 204. A Black Rock seedling. Stems long and slender, 8 or 10 feet long. Leaves comparatively small in size, 3 pointed, lanceolate. The original seedling had dark-red roots but no tubers."

56975. (No. 1.) 56976. (No. 2.)

56920 to 57012—Continued.

56977 to 56980. "No. 217. A Black Rock seedling. The stems are long and slender, attaining a length of 8 to 10 feet or more. The original seedling yielded 24 tubers weighing an aggregate of 3 pounds. The tubers have creamy yellow skin and yellow flesh."

56977. (No. 1.) 56979. (No. 3.)

56978. (No. 2.) 56980. (No. 4.)

56981 and 56982. "No. 223. A Key West 'yam' seedling. Tubers dark red. The original seedling plant yielded 12 tubers weighing 1 pound 13 ounces."

56981. (No. 1.) 56982. (No. 2.)

56983 to 56985. "No. 226. A Key West 'yam' seedling grown at the Virgin Islands Experiment Station in 1922. The original seedling plant had yellow roots but no tubers."

56983. (No. 1.) 56985. (No. 3.)

56984. (No. 2.)

56986 to 56988. "No. 235. A Black Rock seedling. Original seedling plant had dark-red roots but no tubers."

56986. (No. 1.) 56988. (No. 3.)

56987. (No. 2.)

56989 and 56990. "No. 240. A Black Rock seedling. The original seedling plant yielded 26 smooth coppery red tubers with a total weight of 5¼ pounds."

For introduction of tubers under this number, see S. P. I. No. 56742.

56989. (No. 1.) 56990. (No. 2.)

56991 to 56993. "No. 247. A Black Rock seedling. The original seedling plant bore six white tubers weighing 1 pound 2 ounces."

56991. (No. 1.) 56993. (No. 3.)

56992. (No. 2.)

56994. "No. 251. A Black Rock seedling. The original seedling plant produced 14 yellow tubers weighing 1 pound 11 ounces."

For introduction of tubers under this number, see S. P. I. No. 56743.

56995. "No. 306. A Black Rock seedling. This is a volunteer seedling which sprang up in the Black Rock plat after the latter was harvested."

56996 and 56997. "Big Wig variety. It is not known whence this variety came. It was obtained by the station from Estate Strawberry Hill in 1920 or 1921 and has since been grown continuously at the station. It is of bunching vineless growth and bears many dark-green deeply cut 5-lobed leaves. The original form as obtained by the station has red tubers. The seed collected has all been from the ordinary red Big Wig."

56996. (No. 1.) 56997. (No. 2.)

56998 to 57000. "Black Rock variety. This was introduced from Barbados by Dr. Longfield Smith, of this station, in 1911 and is undoubtedly the most popular variety grown in St. Croix. The vines are vigorous, bearing dark-green, cordate leaves. The tubers, which are long and often ill shaped, are dark purplish red and attain large size under favorable conditions. The variety has the reputation of keeping longer in storage than other varieties."

56998. (No. 1.) 57000. (No. 3.)

56999. (No. 2.)

56920 to 57012—Continued.

57001 and 57002. "Hug-me-tight variety. A few tubers of this variety were purchased on the St. Thomas market in May, 1922, under the above name. The tubers were said to have been grown on the island of Tortola, a British island some miles off the east coast of St. Thomas. The tubers are white."

57001. (No. 1.) 57002. (No. 2.)

57003 and 57004. "John Siddon variety. A few tubers of this variety were obtained at the same time and came from the same source as those of Hug-me-tight [S. P. I. Nos. 57001 and 57002]. The tubers are light red."

57003. (No. 1.) 57004. (No. 2.)

57005 to 57010. "Key West 'yam.' This variety was obtained from the Federal Experiment Station at Mayaguez, Porto Rico, and planted at the Virgin Islands Experiment Station some two or three years ago. After growing this variety in a number of comparative tests, in which a large number of local varieties were represented, the Porto Rico Experiment Station pronounced this the best variety tested under the conditions at Mayaguez. It has shown considerable merit in St. Croix, but has not fully established its superiority over the Black Rock and Big Wig varieties. The vines are medium in length, and the leaves are of a very noticeably yellow-green. The tubers are yellow."

57005. (No. 1.) 57008. (No. 4.)

57006. (No. 2.) 57009. (No. 5.)

57007. (No. 3.) 57010. (No. 6.)

57011 and 57012. "Wrenchy variety. This is an old local variety the history of which is not known. The vines are long and slender and the tubers are white. This variety is said to yield comparatively well on hard or poorly plowed land."

57011. (No. 1.) 57012. (No. 2.)

57013 to 57034. HORDEUM spp. Poaceæ. Barley.

From Cambridge, England. Seeds presented by Prof. F. L. Engledon, School of Agriculture, Cambridge, through Dr. H. V. Harlan, United States Department of Agriculture. Received April 24, 1923.

A collection of local barley strains introduced for department cerealists.

57013 and 57014. HORDEUM DEFICIENS Steud.

57013. No. 1. 57014. No. 6.

57015. HORDEUM DISTICHON NIGRICANS Seringe. Two-rowed barley.

No. 13.

57016. HORDEUM DISTICHON NUDUM L. Two-rowed barley.

No. 8.

57017 to 57022. HORDEUM DISTICHON PALMELLA Harlan. Two-rowed barley.

57017. No. 4. 57020. No. 14.

57018. No. 9. 57021. No. 16.

57019. No. 10. 57022. No. 19.

57023. HORDEUM INTERMEDIUM HAXTONI Koern.

No. 7.

57013 to 57034—Continued.

57024. *HORDEUM VULGARE COELESTE* L.
Six-rowed barley.
No. 22.

57025 and 57026. *HORDEUM VULGARE HORSFORDIANUM* Wittmack. Six-rowed barley.

57025. No. 3. 57026. No. 5.

57027 and 57028. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.

57027. No. 12. 57028. No. 17.

57029 to 57034. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

57029. No. 2. 57032. No. 18.

57030. No. 11. 57033. No. 20.

57031. No. 15. 57034. No. 21.

57035. *TRIFOLIUM PHYSODES* Stev.
Fabaceæ. Clover.

From Kew, England. Seeds presented by Dr. A. H. Hill, director, Royal Botanic Gardens. Received May 7, 1923.

A perennial prostrate clover with oval leaflets and roundish heads of pink flowers which open in July and August. Native to southeastern Europe. In the flowering stage this species resembles white clover, but it does not creep. (Adapted from *Ascherson und Graebner, Synopsis der Mitteleuropäischen Flora*, vol. 6, pt. 2, p. 525.)

For previous introduction, see S. P. I. No. 56675.

57036. *TRIFOLIUM PRATENSE* L. Fa-
baceæ. Red clover.

From Copenhagen, Denmark. Seeds presented by H. N. Knudsen, Danish Royal Agricultural Society. Received May 7, 1923.

Tystofte No. 40 originated in a 2-year plat of Rozen-daal clover. Seed of this variety was sown in 1900, and the clover was thus subjected to the hard winter of 1901. In 1902 the strongest plants from this test were selected, one of which was No. 40. Later this strain was compared with others in several tests. In three of four tests all the clovers made vigorous growth during the first year, and in this respect No. 40 averaged well above the others. In all four tests No. 40 gave the largest crop, fully 20 per cent better than that of the next best. These results agree well with the results of earlier tests at Lyngby and Tystofte, in which this strain decidedly surpassed all others. (Adapted from *Beretning fra Statens Forsøgsvirksomhed i Plantekultur*, No. 95, p. 401.)

For previous introduction, see S. P. I. No. 54739.

57037 to 57041. *ORYZA SATIVA* L. Poa-
ceæ. Rice.

From the island of Guam. Seeds presented by J. Guerrero, assistant in horticulture, Guam Agricultural Experiment Station. Received May 7, 1923.

Varieties of seed rice introduced for department specialists engaged in rice breeding.

57037. *Guam*.

57038. *Guam Experiment Station Selection*.

57039. *Inantipolo II*.

57040. *Mangasa*.

57041. *Mayoro II*.

57042 to 57074.

From Algeria. Seeds collected by Dr. H. V. Harlan, Bureau of Plant Industry. Received May 9, 1923. Quoted notes by Doctor Harlan.

Introduced for department cerealists.

57042. *AVENA LUDOVICIANA* Durieu. Poa-
ceæ. Oats.

"(No. 52. Biskra. April 8, 1923.) Wild oats collected in barley fields. No oats are cultivated near Biskra."

57043. *AVENA STERILIS* L. Poaceæ. Oats.

"(No. 60. Algiers. April 21, 1923.) The only sample of oats seen in the native market. It appears to be screenings from other grain."

57044 and 57045. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.) Poaceæ.

Sorghum.

57044. "(No. 57. Algiers. April 21, 1923.) Purchased in the native market."

57045. "(No. 62. Algiers. April 21, 1923.) A poor sample collected in the native market."

57046 to 57065. *HORDEUM* spp. Poaceæ.
Six-rowed barley.

57046. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven.

"(No. 53. Biskra. April, 1923.) A black barley from Biskra. The Arabs tell me that before the big famine of 20 years ago when seed was imported black barley was often grown. The few seeds under this number were found by picking over many samples in the market. They may be from widely separated points."

57047 to 57065. *HORDEUM VULGARE PALLIDUM* Seringe.

57047. "(No. 30. Tuggurt. April 3, 1923.) Purchased in the market. Probably grown on this or a nearby oasis."

57048. "(No. 33. Tuggurt. April 5, 1923.) Barley from the Oasis of Tuggurt, purchased in the market."

57049. "(No. 35. Tuggurt. April 5, 1923.) Barley from the Oasis of Tuggurt, purchased in the market."

57050. "(No. 36. Biskra. March 31, 1923.) The barley was grown under irrigation. The spikes collected represented variation present in the field. Few spikes were taken, as they were not fully ripe and a larger sample might be damaged by heating."

57051. "(No. 37. El Outaia. April 1, 1923.) Conditions similar to No. 36 [S. P. I. No. 57050] and similar selections made."

57052. "(No. 38. Temacin. April 5, 1923.) The barley at Temacin was grown beneath the date palms of the oasis. This may be a winter variety or at least one related to those of Lower Egypt."

For an illustration of this barley, see Plate II, Figure 1.

57042 to 57074—Continued.

57053. "(No. 39. Temacin. April 5, 1923.) Collected from a small plat under date palms; a fairly pure variety of the Peruvian or Portuguese type not seen at Biskra."
57054. "(No. 40. Biskra. May 8 and 13, 1923.) Barley spikes collected from fields about the town. Several types are included."
57055. "(No. 42. Biskra. April 13, 1923.) Barley of the new crop purchased in the market at Biskra."
57056. "(No. 43. El Kantara. April 10, 1923.) Purchased in the market at El Kantara. The 1922 crop is probably from Batna or Setif."
57057. "(No. 46. Biskra. April 13, 1923.) Barley purchased in the market. Said to have been grown at Soada, 20 miles southeast of Biskra. From the 1923 crop."
57058. "(No. 47. Biskra. April 13, 1923.) New crop from Soada, 20 miles southeast of Biskra."
57059. "(No. 48. Biskra. April 13, 1923.) Purchased in the market place. The dealer claimed the shipment came from Morocco."
57060. "(No. 50. El Outaia. April 13, 1923.) Barley of the 1923 harvest purchased in Biskra. Grown at El Outaia."
57061. "(No. 51. Biskra. April 13, 1923.) Barley of the 1923 harvest purchased in the market."
57062. "(No. 55. Setif. April 20, 1923.) Barley of the 1922 crop obtained from the grower."
57063. "(No. 58. Algiers. April 21, 1923.) Barley purchased in the native market."
57064. "(No. 59. Algiers. April 21, 1923.) Barley purchased in the native market."
57065. "(No. 61. Algiers. April 21, 1923.) Barley purchased in the native market. Appears to be a mixture of 2-rowed and 6-rowed barleys. Probably imported."

57066 to 57072. *TRITICUM* spp. Poaceæ.57066 to 57071. *TRITICUM DURUM* Desf.
Durum wheat.

57066. "(No. 31. Tuggurt. April 3, 1923.) Wheat from the Oasis of Tuggurt. Purchased in the market. All wheat here is of the durum type, probably because of its wide use in the manufacture of kushos."
57067. "(No. 34. Tuggurt. April 5, 1923.) The sample of wheat was the best quality seen in the market."
57068. "(No. 41. Ghouff. April, 1923.) Wheat with a little barley secured by Capt. M. W. Hilton-Simpson from the Rossira Valley, Aures Mountains. It may be an old variety long established there. This is a remote locality, and Roman ruins are common."

57042 to 57074—Continued.

57069. "(No. 45. El Kantara. April 10, 1923.) Purchased at El Kantara, probably originally from Batna. 1922 crop."

57070. "(No. 49. Biskra. April 13, 1923.) Wheat from a native mill. Source not known, but probably from the plateau."

57071. "(No. 56. Setif. April 20, 1923.) Wheat of the 1922 crop obtained from the grower."

57072. *TRITICUM VENTRICOSUM* (Tausch)
Ces. Pass. and Gib.

"(No. 54. Biskra. April, 1923.) The seeds under this number were obtained by picking over samples of barley for sale in the Biskra market."

57073 and 57074. *ZEA MAYS* L. Poaceæ.

Corn.

57073. "(No. 32. Tuggurt. April 5, 1923.) The seed of this sample shelled from a single ear purchased in the market. No other type of corn was on sale here."

57074. "(No. 44. Biskra. April 13, 1923.) Purchased in the market. Grown at Mgous, where, according to the Arabs, more corn than wheat or barley is grown."

57075 and 57076. *DIOSPYROS KAKI* L. f.
Diospyraceæ. Kaki.

From Weihsien, Shantung, China. Scions presented by Rev. J. A. Fitch, American Presbyterian Mission. Received May 22, 1923. Quoted notes by Mr. Fitch.

"These are reported to be nonastringent."

57075. "*Tie shi dze* (iron kaki)."

57076. "*Toa shi dze* (palm-of-the-hand kaki)."

57077. *LYCOPERSICON ESCULENTUM*
Mill. Solanaceæ. Tomato.

From St. Vincent, British West Indies. Seeds presented by T. Jackson, agricultural superintendent, Botanic Gardens. Received May 19, 1923.

"A small native variety said to be immune to point-rot." (Jackson.)

57078. *SABINEA CARINALIS* Griseb.
Fabaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, Botanic Gardens. Received May 21, 1923.

This tree is known locally as *bois charibe* and is one of the most showy of our native plants. It is a very fine flowering tree, and I have seen nothing in the Tropics to surpass it as a mass of color. If grown on fairly good land it will not make a good show, but if planted on a dry, rocky hillside where it will be scorched by the sun for a period of three or four months each year it makes a marvelous display of flowers." (Jones.)

A shrub or small tree with featherlike leaves and large scarlet flowers which are borne in clusters of three to five, appearing before the leaves. (Adapted from Grisebach, *Flora of the British West Indies*, p. 183.)

57079. AGATI GRANDIFLORA (L.) Desv.
(*Sesbania grandiflora* Poir.) Fabaceæ.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, department of botany and forestry, experiment station of the Sugar Planters' Association. Received May 22, 1923.

A small, rapid-growing, soft-wooded tree 15 to 20 feet in height, with pinnate leaves and large pendulous white flowers, followed by long sickle-shaped pods. The fleshy petals are used in curries and soups in the Indian Archipelago, where this tree is native. The leaves and young shoots are sometimes used as fodder. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 6, pt. 2, p. 544.)

For previous introduction, see S. P. I. No. 54928.

57080. JUNIPERUS CEDRUS Webb. Pinaceæ. Juniper.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received May 22, 1923.

A Canary Island relative of the common juniper, differing only in minor botanical characters and also in being less hardy. Dr. Georges Perez, of Orotava, Canary Islands, reports trees of this species with trunks a yard or more in diameter. The leaves are uniformly awl shaped and in whorls of threes. The wood is very pleasantly perfumed. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 669.)

57081 to 57088.

From Ichang, China. Seeds presented by Albert S. Cooper, American Church Mission. Received May 22, 1923. Quoted notes by Mr. Cooper except as otherwise stated.

"Collected on the mountains back of Patung, Hupeh, at altitudes of 6,000 to 8,000 feet."

57081. *BERBERIS* sp. Berberidaceæ. **Barberry.**

57082. *CELASTRUS* sp. Celastraceæ.

57083. *COTONEASTER* sp. Malaceæ.

"An evergreen growing prostrate on rocky surfaces."

57084. *DELPHINIUM* sp. Ranunculaceæ. **Larkspur.**

57085. *ILEX* sp.

"A small-leaved holly."

57086. *ILEX* sp.

"This bore an especially abundant lot of berries."

57087. *PRINSEPIA SINENSIS* Oliver. Amygdalaceæ.

"*Prinsepia sinensis* is a species which has been comparatively unknown to horticulturists until recent times. It is quite distinct from *P. utilis*, which yields a cooking oil common in India, but is closely similar to *P. uniflora*, which has been introduced by this office several times. Like *P. uniflora*, it is a Chinese ornamental shrub with gray or whitish bark and small gray spines. But while *P. uniflora* has white flowers, dark-purple fruits, and thick linear-lanceolate leaves, *P. sinensis* is distinguished by yellow flowers, deep-red fruits, and thin ovate-lanceolate leaves. The shrub is said to be somewhat harder than *P. uniflora*. The plant is of striking habit, and the clusters of large bright-yellow flowers must make it a brilliant sight on its native Mongolian hills from Mukden to the Yaboo. It is early blooming, but at the Arnold Arboretum it bears only a few fruits." (D. C. Peattie.)

For previous introduction, see S. P. I. No. 55711.

57081 to 57088—Continued.

57088. *THEA SASANQUA* (Thunb.) Nois. (*Camellia sasanqua* Thunb.) Theaceæ.

A large, wide-spreading ornamental shrub or small tree common throughout the warmer parts of Japan. The branches are very slender, and in the wild plant the flowers are always white. It is a popular garden shrub; and, under cultivation, forms with pink and rose-colored flowers are common. The seeds contain an inferior sort of oil used by the Japanese women for dressing their hair. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 2, p. 394.)

For previous introduction, see S. P. I. No. 50646.

57089 to 57091.

From Hankow, China. Seeds presented by Rev. William Ruhl, Minhsien, Kansu, through P. S. Heintzleman, consul general. Received May 23, 1923. Quoted notes by Mr. Heintzleman.

57089. *HORDEUM VULGARE COELESTE* L. Poaceæ. **Barley.**

"This is planted about the middle of April and harvested the first week in August."

57090. *PISUM SATIVUM* L. Fabaceæ. **Pea.**

"These are planted about the end of April and harvested the latter part of September."

57091. *VICIA FABA* L. Fabaceæ. **Broad bean.**

"These are planted about the end of April and harvested the latter part of September."

57092. TRIPLARIS CUMINGIANA Fisch. and Mey. Polygonaceæ.

From Balboa Heights, Canal Zone. Seeds presented by Holger Johansen, agronomist. Received May 24, 1923.

"A native tree about 20 feet in height, generally of pyramidal habit, which prefers moist situations, such as the borders of lakes and streams. From February until the middle of April it is ablaze with red, produced by the bracts surrounding the capsules, and forms an exceedingly striking object in the landscape. As a beautiful ornamental this tree is well worthy of further distribution." (Johansen.)

57093. TITHONIA DIVERSIFOLIA (Hemsl.) A. Gray. Asteraceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received May 24, 1923.

"A perennial composite with large yellow flowers which are produced in great abundance during the autumn and early winter months. It should therefore be a good ornamental for southern Florida during the tourist season." (Wester.)

For previous introduction, see S. P. I. No. 54461.

57094 to 57210.

From Tiflis, Transcaucasia. Seeds presented by L. Dekaprevitch, director, Plant-Breeding Department, Botanic Garden. Received May, 1923. Quoted notes by Mr. Dekaprevitch.

Local varieties of cereals introduced for department specialists.

57094 to 57114. *HORDEUM* spp. Poaceæ. **Barley.**

57094 and 57095. *HORDEUM DISTICHON PALMELLA* Harlan.

57094. No. 1. 57095. No. 2.

57094 to 57210—Continued.

57096 to 57114. HORDEUM VULGARE PAL-
LIDUM Seringe.

57096. No. 1.	57106. No. 11.
57097. No. 2.	57107. No. 12.
57098. No. 3.	57108. No. 13.
57099. No. 4.	57109. No. 14.
57100. No. 5.	57110. No. 15.
57101. No. 6.	57111. No. 16.
57102. No. 7.	57112. No. 17.
57103. No. 8.	57113. No. 18.
57104. No. 9.	57114. No. 19.
57105. No. 10.	

57115 to 57138. SECALE CEREALE L. Poa-
ceæ. Rye.

"From the Government of Tiflis."

57115. No. 1.	57127. No. 13.
57116. No. 2.	57128. No. 14.
57117. No. 3.	57129. No. 15.
57118. No. 4.	57130. No. 16.
57119. No. 5.	57131. No. 17.
57120. No. 6.	57132. No. 18.
57121. No. 7.	57133. No. 19.
57122. No. 8.	57134. No. 20.
57123. No. 9.	57135. No. 21.
57124. No. 10.	57136. No. 22.
57125. No. 11.	57137. No. 23.
57126. No. 12.	57138. No. 24.

57139 to 57210. TRITICUM spp. Poaceæ.

57139 to 57185. TRITICUM AESTIVUM L.
(*T. vulgare* Vill.) Common wheat.

"From the Government of Tiflis."

57139. No. 1.	57163. No. 25.
57140. No. 2.	57164. No. 26.
57141. No. 3.	57165. No. 27.
57142. No. 4.	57166. No. 28.
57143. No. 5.	57167. No. 29.
57144. No. 6.	57168. No. 30.
57145. No. 7.	57169. No. 40.
57146. No. 8.	57170. No. 41.
57147. No. 9.	57171. No. 42.
57148. No. 10.	57172. No. 43.
57149. No. 11.	57173. No. 44.
57150. No. 12.	57174. No. 45.
57151. No. 13.	57175. No. 46.
57152. No. 14.	57176. No. 47.
57153. No. 15.	57177. No. 48.
57154. No. 16.	57178. No. 49.
57155. No. 17.	57179. No. 50.
57156. No. 18.	57180. No. 51.
57157. No. 19.	57181. No. 52.
57158. No. 20.	57182. No. 53.
57159. No. 21.	57183. No. 54.
57160. No. 22.	57184. No. 55.
57161. No. 23.	57185. No. 56.
57162. No. 24.	

57094 to 57210—Continued.

57186 to 57205. TRITICUM DURUM Desf.
Poaceæ. Durum wheat.

57186. No. 1.	
"From Elisabethpol."	
57187 to 57189.	
"From Baku."	
57187. No. 2.	57189. No. 4.
57188. No. 3.	
57190. No. 5.	
"From Elisabethpol."	
57191 to 57193.	
"From Baku."	
57191. No. 6.	57193. No. 8.
57192. No. 7.	
57194 and 57195.	
"From Tiflis."	
57194. No. 9.	57195. No. 10.
57196 and 57197.	
"From Baku."	
57196. No. 11.	57197. No. 12.
57198. No. 13.	
"From Tiflis."	
57199. No. 14.	
"From Baku."	
57200. No. 15.	
"From Tiflis."	
57201 and 57202.	
"From Baku."	
57201. No. 16.	57202. No. 17.
57203 to 57205.	
"From Tiflis."	
57203. No. 18.	57205. No. 20.
57204. No. 19.	

57206 to 57210. TRITICUM TURGIDUM L.
Poaceæ. Poulard wheat.

57206 to 57209.	
"From Baku."	
57206. No. 1.	57208. No. 3.
57207. No. 2.	57209. No. 4.
57210. No. 5.	
"From Tiflis."	

57211. HAKEA NODOSA R. Br. Prote-
aceæ.

From Hobart, Tasmania. Seeds presented by
L. A. Evans, Secretary of Agriculture, Agri-
cultural and Stock Department. Received
June 29, 1923.

An ornamental Australian shrub 2 to 6 feet in
height, with slender branches, short, needlelike or
extremely narrow leaves crowded on the stems, and
axillary clusters of very small flowers. (Adapted
from *Bentham, Flora Australiensis*, vol. 5, p. 514.)

57212. AGROPYRON CRISTATUM (L.)
Gaertn. Poaceæ. Grass.

From Ekaterinoslav, Russia. Seeds presented
by the Russian Bureau of Applied Botany,
through D. Borodin, New York, N. Y. Re-
ceived June 14, 1923.

"No. 685. 1921 crop." (*Borodin.*)

From the Ekaterinoslav Agricultural Experiment
Station; introduced for department agrostologists.

57213. SOLANUM COMMERSONII Dunal.
Solanaceae.

From Montevideo, Uruguay. Tubers presented by Luis Guillot, Dirección General de Paseos Públicos. Received May 31, 1923.

Introduced for department horticulturists engaged in potato breeding.

A wild relative of the potato which is found native in humid situations in the vicinity of Montevideo, Uruguay. In general appearance the wild plant resembles that of the potato, having dark-green leaves composed of two to four pairs of leaflets, white flowers, small green fruits, and small potato-like tubers with a bitter flavor. Under cultivation in France a lavender-flowered variety developed, with larger tubers which were only slightly bitter and fragrant. It has been thought that this species might be one of the parents of some of the European varieties of the potato. (Adapted from *Revue Horticole*, vol. 78, p. 303.)

For previous introduction, see S. P. I. No. 53846.

57214. CHRYSALIDOCARPUS BARONII Beccari. Phœnicaceae. Palm.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut, Government botanist. Received June 5, 1923.

A medium-sized palm, native to central Madagascar, with a cylindrical stem about 3 inches in diameter and regularly pinnate leaves about 4 feet long, with very narrow pinnae 16 to 18 inches long. Native name *farihaz*. (Adapted from *Engler, Botanische Jahrbücher*, vol. 38, *Beiblatt* 87, p. 33.)

57215. TACSONIA sp. Passifloraceae.

From Bogota, Colombia. Seeds presented by Brother Ariste Joseph. Received June 5, 1923.

"One of the curubas from the region of Bogota, where there are several, esteemed both for their ornamental value and their fruits, which are usually the size of small cucumbers and of sprightly acid flavor. Worthy of trial in California and Florida." (*Wilson Popenoe*.)

57216. THUNBERGIA GRANDIFLORA Roxb. Acanthaceae.

From St. Clair, Trinidad, British West Indies. Plants presented by R. T. Williams, superintendent, Royal Botanic Gardens. Received June 11, 1923.

"The typical form of *Thunbergia grandiflora* is well known in tropical gardens, where it is highly esteemed for its large sky-blue flowers and the ornamental effect of its foliage. The white form (var. *alba*) is less widely cultivated, though perhaps as meritorious as the type. It is a strong-growing climber, useful for covering pergolas and fences, and is sufficiently frost resistant for cultivation in the warmer parts of Florida and the most favored sections of southern California." (*Wilson Popenoe*.)

57217. ARECA sp. Phœnicaceae. Palm.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received June 6, 1923.

"A very graceful dwarf palm, with a slender trunk about 2 inches in diameter, from Palawan. It ought to be a good conservatory plant." (*Wester*.)

57218. AMPELOCISSUS ACAPULCENSIS (H. B. K.) Planch. Vitaceae. Grape.

From Juatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received June 27, 1923.

"This was collected on very dry, rocky mountain slopes near Jalisco in Chiapas. The vine bore enormous bunches of red grapes and was in flower at the same time. It had no leaves. The fruits were partly ripe at the end of April and in May and I believe would make excellent jelly." (*Purpus*.)

57219. SOLANUM MAGLIA Schlecht. Solanaceae.

From Lima, Peru. Tubers presented by the director, Estación Central Agronómico. Received June 28, 1923.

A nearly glabrous wild potato, native to Chile, with angled, winged stems about 2 feet high, light-green leaves 4 to 8 inches long, and cymes of white flowers an inch in width. The subglobose or oblong tubers are about 1½ inches long, with smooth, reddish brown surfaces. When boiled the tubers shrink and become watery and insipid. (Adapted from *Curtis's Botanical Magazine*, pl. 6756.)

Introduced for department specialists engaged in potato breeding.

For previous introduction, see S. P. I. No. 53445.

57220. CALYDOREA SPECIOSA (Hook.) Herbert. Iridaceae.

From Santiago, Chile. Bulbs presented by Dr. Carlos Camacho. Received June 1, 1923.

An ornamental bulbous plant about 4 inches high, native to Chile, where it generally prefers the lower altitudes. The flower, about 2 inches wide, is a bright navy blue with a golden center. The bulbs are eaten boiled, roasted, or baked. (Adapted from note of José D. Husbands, under S. P. I. No. 30074.)

57221 and 57222. AGROPYRON spp. Poaceae. Grass.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Quoted notes by Mr. Borodin.

From the Ekaterinoslav Agricultural Experiment Station; introduced for department agrostologists.

57221. AGROPYRON ELONGATUM (Host) Beauv. (*A. rigidum* Beauv.)

"No. 368. 1920 crop. Originally from Pamir."

57222. AGROPYRON SIBIRICUM (Willd.) Beauv.

"No. 819. 1918 crop. Originally from Krasnikut."

57223. CROTALARIA JUNCEA L. Fabaceae. Sunn hemp.

From Calcutta, India. Seeds purchased from Messrs. Barnard & Co. Received June 11, 1923.

Introduced for testing as a green manure, for which purpose it is used in India. It is also used in that country as a fiber plant and as a catch crop.

57224. ARTOCARPUS COMMUNIS Forst. Moraceae. Breadfruit.

From Honolulu, Hawaii. Plants presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received June 27, 1923.

"There is but one kind of breadfruit in Hawaii; while there are slight variations, due probably to local conditions, there are no true varietal differences." (*Pope*.)

This variety, which now grows wild throughout the Hawaiian Islands, was originally introduced from Tahiti. It has large, rough, ovate, deeply lobed leaves, and the staminate flowers appear in large yellow catkins. The large-stemmed fruit is either round or oblong and varies from 5 to 8 inches in diameter. The thick, tough rind, which is brownish at maturity, incloses a firm, very starchy, and somewhat fibrous pulp, which becomes mealy when cooked, slightly resembling a dry sweetpotato, and is much esteemed as an article of diet. The tree is propagated by suckers or by layering. (Adapted from G. P. Wilder, *Fruits of the Hawaiian Islands*, p. 100, pl. 48, under *A. incisa*.)

For previous introduction, see S. P. I. No. 44908.

57225. MALUS YUNNANENSIS (Franch.)C. Schneid. (*Pyrus yunnanensis* Franch.) Malaceæ. **Apple.**

From Yunnan, China. Fruits collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received June 19, 1923.

"(No. 6760. October, 1922.) One of the finest apple trees of the Likiang Snow Range, where it grows in rocky situations at altitudes of 9,600 to 10,000 feet. It becomes 30 feet in height, with velvety leaves, and the exceedingly handsome yellow and red fruits, about 1 inch in diameter, are borne in December in large corymbs at the ends of the branches." (Rock.)

For previous introduction, see S. P. I. No. 56320.

57226 and 57227. RUBUS MACRAEI A. Gray. Rosaceæ. Akala.

From Hilo, Hawaii. Seeds presented by L. W. Bryan, Hawaiian Sugar-Planters' Association. Received June 19, 1923.

"The Hawaiian giant raspberry, occurring at an altitude of about 6,000 feet. It is a straight bush with the older branches thornless. The fruits, borne at the drooping tips of the branches, are very numerous, about 2 inches in diameter, and exceedingly juicy; the seeds are comparatively small. The flesh is slightly bitter but otherwise delicious. This berry is of great promise, as it grows in a region where frost is not uncommon in the winter months. It should grow well in the regions of the Pacific coast." (J. F. Rock.)

For previous introduction, see S. P. I. No. 53480.

57226. Red variety. 57227. Yellow variety.

57228. RUBUS ELLIPTICUS J. E. Smith. Rosaceæ. Raspberry.

From Naini Tal, United Provinces, India. Seeds presented by Rev. N. L. Rockey. Received June 18, 1923.

"This is the most common wild yellow raspberry, which grows here in great profusion. The bush is tall, thorny, and hairy. The fruit, which ripens in early May, is a trifle insipid in its sweetness and full of seeds, but it is very tender and we enjoy it. I believe it will be valuable for breeding purposes. The native name is *hissauloo*." (Rockey.)

57229 to 57247. TRIFOLIUM spp. Fabaceæ.

From Petrograd, Russia. Seeds presented by Prof. N. I. Vavilov, Bureau of Applied Botany. Received June 19, 1923. Quoted notes by Professor Vavilov.

Locally grown strains introduced for department agronomists engaged in clover breeding.

57229 to 57231. *TRIFOLIUM HYBRIDUM* L. Alsike clover.

57229 and 57230. "From the 'Schloss Sagnitz' estate, Province of Livonia."

57229. No. 72. 57230. No. 460.

57231. "No. 798. From the Marussino Forage-Plant Selection Station, District of Morshansk, Province of Tambov."

57232 to 57245. *TRIFOLIUM PRATENSE* L. Red clover.

57232. "No. 207. From the 'Schloss Sagnitz' estate, Province of Livonia."

57233. "No. 763. From the Province of Kasar."

57229 to 57247—Continued.

57234 to 57237. "From Kolodino, District of Poshekhonje, Province of Yaroslavl."

57234. No. 767. 57236. No. 769.

57235. No. 768. 57237. No. 770.

57238. "No. 776. From the Agricultural Plant-Breeding Station at Ekaterinoslav, Province of Ekaterinoslav."

57239 to 57243. "From the Marussino Forage-Plant Selection Station, District of Morshansk, Province of Tambov."

57239. No. 799. 57242. No. 802.

57240. No. 800. 57243. No. 803.

57241. No. 801.

57244. "No. 994. From the Phytosociological Station at Tsarskoye Selo, near Petrograd."

57245. "No. 1007. From the Province of Brijansk."

57246 and 57247. *TRIFOLIUM REPENS* L. White clover.

"From the 'Schloss Sagnitz' estate, Province of Livonia."

57246. No. 144. 57247. No. 145.

57248 to 57259. GOSSYPIUM spp. Malvaceæ. Cotton.

From Cairo, Egypt. Seeds presented by Prof. R. H. Forbes. Received June 13, 1922. Numbered June, 1923.

Introduced for department cotton specialists.

57248 and 57249. "Pima cotton seed from the third generation of Pima cotton grown in Egypt." (Forbes.)

57248. *GOSSYPIUM* sp.

No. 47.

57249. *GOSSYPIUM* sp.

No. 48.

57250. *GOSSYPIUM* sp.

No. 51. "Pima cotton seed grown at Bah-tim, 1921." (Forbes.)

57251. *GOSSYPIUM* sp.

No. 52 (No. 111).

57252. *GOSSYPIUM* sp.

No. 53 (No. 77).

57253. *GOSSYPIUM* sp.

No. 54 (No. 310).

57254. *GOSSYPIUM* sp.

Nubari, grade 3.

57255. *GOSSYPIUM* sp.

Sakel.

57256. *GOSSYPIUM* sp.

No. 57. *Assili X*.

57257. *GOSSYPIUM* sp.

No. 57a.

57258. *GOSSYPIUM* sp.

No. 70. Prehistoric cotton.

57259. *GOSSYPIUM* sp.

No. 70a. Hindi cotton.

57260 and 57261.

From Ceylon, India. Seeds presented by the Governor of Ceylon, through Frank B. Noyes, Washington, D. C. Received June 11, 1923.

57260. *EXACUM ZEYLANICUM MACRANTHUM* (Arnott) C. B. Clarke. Gentianaceæ.

An erect, slightly branched annual from the mountains of Ceylon, where it grows at an altitude of 6,000 feet. The stem, over a foot in height, is copiously leafy below and bears a terminal cluster of large handsome flowers. The latter have deep, rich-purple petals and showy bright-orange stamens. (Adapted from *Curtis's Botanical Magazine*, pl. 4771.)

57261. *OSBECKIA RUBICUNDA* Arnott. Melastomaceæ.

A branched shrub, 4 to 6 feet in height, with hairy elliptic leaves about 2 inches long and brilliant purplish crimson flowers borne in clusters of one to five. Native to Ceylon. (Adapted from *Macmillan, Handbook of Tropical Gardening*, p. 393, and from *Hooker, Flora of British India*, vol. 2, p. 520.)

57262 and 57263. *CERATONIA SILIQUA* L. Cæsalpiniaceæ. Carob.

From Faro, Portugal. Budwood presented by Antonio Barreto Martins Terra Boa. Received June 11, 1923.

Sent in response to a request for cuttings of the best carob varieties cultivated in Portugal.

57262. *V. II. Pagina 500.* 57263. *Mulata.*

57264 to 57266. *PROTEA* spp. Proteaceæ.

From Kirstenbosch, Cape of Good Hope, South Africa. Seeds presented by Prof. R. H. Compton, director, National Botanic Gardens. Received June 20, 1923.

57264. *PROTEA LANCEOLATA* E. Mey.

"A very attractive shrub with light-yellow flowers and pale yellowish green foliage, not as striking as some of the other *Proteas* when in flower, but of decided value as a decorative plant. The habit and requirements are the same as those of the other *Proteas*." (*Dr. H. L. Shantz.*)

For previous introduction, see S. P. I. No. 48182.

57265. *PROTEA LATIFOLIA* R. Br.

"A wonderful *Protea*, with flowers 4 inches across. The Cape region is noted for its beautiful flowers, and of these none are more popular than the large flowers of the *Proteas*. The shrubs are from 2 to 6 feet high and bear a large flower on the tip of almost every branch. Seeds only are sent, but these are said to grow easily, and it will be possible to test the seedlings on several types of soil. Acid, or at least humus, soils should be tried in Florida and California." (*Dr. H. L. Shantz.*)

For previous introduction, see S. P. I. No. 48183.

57266. *PROTEA ROSACEA* L.

An attractive small shrub about 6 inches high, with numerous gracefully curved branches, needlelike leaves nearly an inch long, and sessile flower heads a little more than an inch in diameter, with bracts varying in color from bright rose to crimson. The shrub is native to the Cape of Good Hope, where it grows chiefly in the coastal regions. (Adapted from *Thiselton-Dyer, Flora Capensis*, vol. 6, sec. 1, p. 596.)

57267. *NAGEIA THUNBERGII* (Hook.) F. Muell. (*Podocarpus thunbergii* Hook.) Taxaceæ.

From Hogsback, via Lovedale, Cape of Good Hope, South Africa. Seeds presented by David A. Hunter. Received June 25, 1923.

"This tree grows slowly, but finally becomes very large. The timber is fine grained and is largely used in our shops for furniture." (*Hunter.*)

A fine evergreen timber tree, up to 100 feet tall and with a trunk 4 feet in diameter, which occurs throughout all the timber forests from the Cape of Good Hope to Natal. The quality of the wood of this species is very similar to that of *Nageia elongata*, and for most purposes they are used indiscriminately.

For previous introduction, see S. P. I. No. 56197.

57268 and 57269.

From Burringbar, New South Wales, Australia. Seeds presented by B. Harrison. Received June 22, 1923.

57268. *ALLOTROPSIS SEMIALATA* (R. Br.) Hitchc. Poaceæ. Cockatoo grass.

"A native grass which becomes 2 to 3 feet high in sandy soil." (*Harrison.*)

"Cockatoo grass is excellent pasturage and of good seeding habit. It is leafy at the base." (*Roland McKee.*)

For previous introduction, see S. P. I. No. 56786.

57269. *GOMPHOCARPUS PHYSOCARPUS* E. Mey. Asclepiadaceæ.

"A tall-growing plant which bears balloon-like pods containing brown seeds furnished with tufts of fine silky cotton." (*Harrison.*)

A branched plant 2 or 3 feet high, with opposite, very narrow, sharp-pointed leaves and 6 to 10 flowered umbels of small white flowers. (Adapted from *Thiselton-Dyer, Flora of Tropical Africa*, vol. 4, sec. 1, p. 328.)

57270. *EUGENIA DOMBEYI* (Spreng.) Skeels. (*E. brasiliensis* Lam.) Myrtaceæ. Grumichama.

From Honolulu, Hawaii. Seeds presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received June 30, 1923.

"The grumichama is found both wild and cultivated in southern Brazil, particularly in the States of Parana and Santa Catharina. Elsewhere, with the exception of Hawaii, it is scarcely known.

"The tree, which grows to the same size as the orange, is shapely and attractive in appearance, with ovate-elliptic, glossy, deep-green leaves 2 to 3 inches long. The small white flowers are followed by pendent fruits, round or slightly flattened, the size of a cherry, and deep crimson. The persistent green sepals which crown the apex are a distinguishing characteristic. The skin is thin and delicate, the soft flesh melting and of a mild subacid flavor suggesting that of a Bigarreau cherry. The seeds are round or hemispherical when one or two in number; sometimes there are three or more, in which case the size is reduced and they are angular. The fruit is usually eaten fresh, but may also be used to make jams and preserves.

"The grumichama (sometimes *grumizama*, to conform to old Portuguese orthography) has recently been planted in California and Florida. In the latter State it has withstood a temperature of 26° F. without injury, which indicates that it is subtropical rather than strictly tropical in character. It prefers a deep sandy loam, but succeeds in Florida on shallow sandy soils.

"For its value as an ornamental plant as well as for its pleasant fruit, the grumichama deserves cultivation throughout the Tropics and Subtropics." (*Wilson Popenoe.*)

For previous introduction, see S. P. I. No. 55978.

57271 and 57272. COFFEA spp. Rubiaceae. Coffee.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received June 29, 1923.

Introduced for department specialists engaged in coffee-growing experiments.

57271. COFFEA EXCELSA Cheval.

A coffee which thrives from sea level to 700 meters, succeeds well on rather stiff clayey soils, and is quite drought resistant—it might be grown with an annual rainfall of 48 inches. It is the most resistant to drought and blight of any coffee, is of strong vigorous growth, and produces 1 kilogram of coffee from 7 to 8 kilograms of berries. *Coffea excelsa* makes an excellent stock for other coffees. The first crop is obtained at the age of 4 to 5 years and a full crop at the age of 7 to 8 years. (Adapted from *Philippine Review*, vol. 9, p. 121.)

For previous introduction, see S. P. I. No. 53458.

57272. COFFEA LAURENTH Wildem. (*C. robusta* Hort.)

A white-flowered shrub, native to Belgian Congo, with oval dark-green leaves up to a foot in length and shortly elliptic 2-seeded fruits. The roundish seeds are sometimes nearly half an inch long. (Adapted from *Actes du Premier Congrès International de Botanique*, 1900, p. 234.)

For previous introduction, see S. P. I. No. 51481.

57273. PITTOSPORUM FLORIBUNDUM Wight and Arn. Pittosporaceae.

From Darjiling, India. Seeds presented by G. H. Cave, director, Lloyd Botanic Garden. Received January 8, 1923. Numbered June, 1923.

A handsome tree, with a short straight trunk and spreading branches and numerous yellowish flowers in terminal panicles. The tree has light-colored, strong tough wood and yields an aromatic yellow resin or oleoresin having very adhesive properties. It is a native of the outer Himalayas, ascending to 3,500 feet. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 6, pt. 1, pp. 283, 284, and *Brandis, Forest Flora of India*, p. 19.)

For previous introduction, see S. P. I. No. 47757.

57274 to 57386.

From Echo, Tiehlingho, Manchuria, China. Seeds presented by A. D. Woelkoff, director, experimental farm. Received June 21, 1923. Quoted notes by Mr. Woelkoff unless otherwise stated.

57274. ACANTHOPANAX SENTICOSUM (Rupr.) Harms. (*Eleutherococcus senticosus* Maxim.) Araliaceae.

"A very spiny shrub bearing palmate divided leaves and having at the end of its long shoots small umbels of black berries. Grows generally in dense shade. May be of use as a park or garden shrub or as an undergrowth beneath tall trees." (*F. N. Meyer.*)

For previous introduction, see S. P. I. No. 20309.

57275. ACANTHOPANAX SESSILIFLORUM (Rupr. and Maxim.) Seem. Araliaceae.

An ornamental, hardy shrub found in eastern Siberia. The leaves are palmate, the brownish flowers occur in dense umbels on the spiny branches, and the fruits are blackish berries. (Adapted from note of *F. N. Meyer*, November 24, 1906.)

For previous introduction, see S. P. I. No. 43675.

57274 to 57386—Continued.

57276. ARUNDINELLA ANOMALA Steud. Poaceae. Grass.

"Seeds of a tall grass, 3 to 5 feet, found growing here and there in large masses; of a spread-out growth, coarse. May be of use as a fodder grass." (*F. N. Meyer.*)

For previous introduction, see S. P. I. No. 21896.

57277. AVENA SATIVA L. Poaceae. Oats.

Introduced for department cerealists.

57278. BETULA DAVURICA Pall. Betulaceae. Birch.

A tree 60 feet or more tall, with the trunk clothed with curling flakes of papery bark, giving it a curious ragged appearance. The broadly wedge-shaped, coarsely toothed leaves are dark green and smooth above and downy beneath along the midrib. This birch is native to Manchuria, Chosen, and northern China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 256.)

For previous introduction, see S. P. I. No. 33151.

57279. CALAMAGROSTIS EPIGEJOS (L.) Roth. Poaceae. Grass.

A perennial, robust Manchurian grass, introduced for department agrostologists.

57280. ERIOCHLOA VILLOSA (Thunb.) Kunth. Poaceae. Grass.

A wild grass, native to Manchuria, introduced for department agrostologists.

57281. EUONYMUS HAMILTONIANUS Wall. Celastraceae.

A large Himalayan shrub which under favorable circumstances becomes a moderate-sized tree 30 to 35 feet high, with a short straight trunk 4 to 5 feet in girth. The clusters of 15 to 30 greenish white flowers are followed by yellow capsules the seeds of which are entirely surrounded by a scarlet aril. The fruit ripens from August onward. The leaves are brilliantly colored in fall. The wood is beautifully white, compact and close, not very hard, and is used for making spoons. The young shoots and leaves are lopped for fodder. (Adapted from *Brandis, Forest Flora of India*, p. 78, and *Arnold Arboretum Bulletin of Popular Information*, No. 13, 1911.)

For previous introduction, see S. P. I. No. 53699.

57282. FAGOPYRUM VULGARE Hill. (*F. esculentum* Moench.) Polygonaceae. Buckwheat.

"No. 175. *Ch'iao mai*. From Tubin."

57283. FRAXINUS MANDSHURICA Rupr. Oleaceae. Ash.

A handsome tree often 100 feet in height, native to Japan and the adjacent parts of the Asiatic mainland. The leaves are up to 15 inches in length, with dull-green, bristly leaflets. It is said to be susceptible to late spring frosts. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 569.)

57284 to 57295. HOLCUS SORGHUM L. Poaceae. Sorghum.

Introduced for department cerealists.

57284. "No. 36. *Niang kaoliang*, a glutinous form from Mulin."

57285. "No. 37. *Niang kaoliang*, a glutinous form from Mulin."

57274 to 57386—Continued.

57286. "No. 38. *Tie chu mi tsa*, from Ninguta."
 57287. "No. 39. *Hung kaoliang*, red, from Mulin."
 57288. "No. 40. *Hung kaoliang*, red, from Mulin."
 57289. "No. 41. *Hung kaoliang*, red, from Mulin."
 57290. "No. 42. *Hung kaoliang*, red, from Mulin."
 57291. "No. 45. *Ts'o kaoliang*, from Tubin."
 57292. "No. 46. *Shejen kaoliang*, from Ninguta."
 57293. "No. 47. *Shejen kaoliang*, from Ninguta."
 57294. "No. 48. *Shejen kaoliang*, from Ninguta."
 57295. "No. 49. *Shejen kaoliang*, from Ninguta."

57296. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceæ. Barley.

Introduced for department cerealists.

57297. *IRIS SETOSA* Pall. Iridaceæ. Iris.

This was originally described as an Asiatic plant, but forms that can not be separated from it are found in North America. At least half a dozen forms come true to seed. The peculiarity of this iris is that the standards have dwindled until they are only small points about a half inch long, but their disappearance is usually counterbalanced by the increased size of the falls. The color is usually blue, but some shades are so light as to be almost gray. (Adapted from *W. Rickatson Dykes, Irises*, p. 64.)

57298. *JUNIPERUS RIGIDA* Sieb. and Zucc. Pinaceæ. Juniper.

A Japanese juniper which is a tree about 20 feet in height and of elegant habit with the branches pendulous at the ends. The needle-like leaves are triangular in section and very slender. The tree thrives very well in southern England. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 569.)

57299. *LESPEDeza Ricolor* Turcz. Fabaceæ.

Introduced for department forage-crop specialists.

A bushy, herbaceous Japanese perennial which flowers in early autumn, bearing a profusion of rosy purple flowers which practically cover its drooping branches. These branches sometimes become 6 feet in length. (Adapted from *Florists' Exchange*, vol. 49, p. 985.)

57300. *LONICERA MAACKII* (Rupr.) Herd. Caprifoliaceæ. Honeysuckle.

A bush honeysuckle, native to northeastern China, becoming about 10 feet in height with widely spreading branches and dark-green leaves which are downy on both surfaces. The pure-white flowers, an inch in diameter, are produced in pairs on the upper side of the branchlets. The fruits are red. (Adapted from note under *S. P. I. No. 53712*.)

57301. *MAACKIA AMURENSIS* Rupr. Fabaceæ.

A small tree, native to eastern Asia, with orange-brown bark, dull-green compound leaves, and short erect clusters of small yellowish white flowers. (Adapted from *Arnold Arboretum Bulletin of Popular Information*, No. 11, 1911.)

57274 to 57386—Continued.

57302 to 57308. *ORYZA SATIVA* L. Poaceæ. Rice.

57302. "No. 115. *Chalbe*, from Mulin."

57303. "No. 120. *Handjontsa*, from Mulin."

57304. "No. 125. *Shuidjontsa*, water rice from Tubin."

57305. "No. 126. *Shuidjontsa*, water rice from Ninguta."

57306. "No. 127. *Shuidjontsa*, water rice from Mulin."

57307. "No. 128. *Shuidjontsa*, water rice from Mulin."

57308. "No. 129. *Hokkaido (Sapporo akage)*, from Mulin."

57309. *PRINSEPIA SINENSIS* Oliver. Amygdaceæ.

For previous introduction and description, see *S. P. I. No. 57087*.

57310. *PRUNUS MAACKII* Rupr. Amygdaceæ. Cherry.

A Manchurian bird cherry, 40 feet or more in height, with very smooth brownish yellow bark which peels off like that of a birch. The leaves are pointed and very finely toothed, and the white flowers are in short racemes borne on the previous season's wood. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 2, p. 242.)

57311. *RHAMNUS DAVURICA* Pall. Rhamnaceæ. Buckthorn.

A shrub or small tree, up to 30 feet in height, with more or less arching branches which are often thornless. The oblong or oval leaves are slender pointed and finely toothed. The black fruits, in dense clusters, are about one-fourth of an inch in diameter. This species is native to northeastern China and Siberia and is of value for rough shrubberies. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 2, p. 332.)

57312. *RHAMNUS PARVIFOLIA* Bunge. Rhamnaceæ. Buckthorn.

"A *Rhamnus* of dense growth, having small foliage and bearing large jet-black berries. This shrub does not grow tall, but is densely branched and assumes well-rounded forms when not mutilated. Of value as a garden park shrub and as material for medium-sized hedges, especially for the drier sections of the United States." (*F. N. Meyer*.)

For previous introduction, see *S. P. I. No. 36735*.

57313. *ROSA DAVURICA* Pall. Rosaceæ. Rose.

"A Manchurian shrub closely related to the cinnamon rose, with straight, slender prickles, smaller double-serrate leaflets, purple flowers, and ovate scarlet fruits." (*H. C. Skeels*.)

For previous introduction, see *S. P. I. No. 54193*.

57314. *SCHIZANDRA CHINENSIS* (Turcz.) Baill. Magnoliaceæ.

"A trailing vine of small growth, found among boulders and rocks. The leaves are not unlike those of *Actinidia kolomikta*, and the red, sour berries are in small clusters. Might be of use as a small porch and trellis vine for the colder sections of the United States." (*F. N. Meyer*.)

For previous introduction, see *S. P. I. No. 36755*.

57274 to 57386—Continued.

57315 to 57340. SOJA MAX (L.) Piper. (*Glycine hispida* Maxim.) Fabaceæ. Soybean.

57315. "No. 176. *Ssu luh hwa*, from Kungshuling."

57316. "No. 177. *Kungshuling wunhsin*, from Kungshuling."

57317. "No. 178. *Ssu pinkai pai hwa*, from Kungshuling."

57318. "No. 179. *Feng tien pai mi*, from Kungshuling."

57319. "No. 180. *Kungshuling pai mi*, from Kungshuling."

57320. "No. 181. *Shao heimi*, from Kungshuling."

57321. "No. 200. *Hsiao li er huang tou tsa*, a small yellow form from Tubin."

57322. "No. 201. *Hsiao li er fang tou tsa*, from Mulin."

57323. "No. 202. *Hsiao li er fang tou tsa*, from Mulin."

57324. "No. 203. *Hsiao huang tou*, a small yellow form from Mulin."

57325. "No. 204. *Hsiao ch'in huang tou*, a golden form from Ninguta."

57326. "No. 205. *Hsiao ch'in huang tou*, a golden form from Ninguta."

57327. "No. 206. *Hsiao ch'in huang tou*, a golden form from Ninguta."

57328. "No. 207. *Hsiao ch'in huang tou*, a golden form from Ninguta."

57329. "No. 208. *Hsiao ch'in huang tou*, a golden form from Tubin."

57330. "No. 209. An early soybean from Musan, Mulin."

57331. "No. 211. *Ta ch'in mi huang tou tsa*, from Tubin."

57332. "No. 212. *Hua lia tou tsa*, from Ninguta."

57333. "No. 213. *Huang tou*, a yellow form from Ninguta."

57334. "No. 214. *Huang tou*, a yellow form from Ninguta."

57335. "No. 215. *Huang tou*, a yellow form from Mulin."

57336. "No. 216. *Hei tou*, a black form from Tubin."

57337. "No. 217. *Ch'ing tou*, a green form from Ninguta."

57338. "No. 218. *Ch'ing huang tou*, a green-yellow form from Ninguta."

57339. "No. 219. *Ch'ing huang tou*, a green-yellow form from Mulin."

57340. "No. 220. *Yao li er huang tou tsa*, from Mulin."

57341. PHASEOLUS VULGARIS L. Fabaceæ. Common bean.

"No. 221. *O iar kong*, a Korean variety, from Mulin."

57342. SOJA MAX (L.) Piper. Fabaceæ. (*Glycine hispida* Maxim.) Soybean.

"No. 222. *Hei tou*, from Ashiho."

57274 to 57386—Continued.

57343. SPADIOPOGON SIBIRICUS Trin. Poaceæ. Grass.

"A perennial grass, 2 to 3 feet high, occurring on mountain slopes on decomposed porphyritic rock in partial shade. Possibly of forage value in Rocky Mountain localities." (*F. N. Meyer*.)

For previous introduction, see S. P. I. No. 44288.

57344. SYRINGA AMURENSIS Rupr. Oleaceæ. Lilac.

A privetlike lilac, native to Manchuria, introduced for stock and breeding experiments.

57345. TILIA AMURENSIS Rupr. Tiliaceæ. Linden.

A Manchurian linden with a habit similar to that of the small-leaved linden (*Tilia cordata* Mill.), with ovate, papery, long-pointed leaves which are dark green above and blue-green below. It is distinguished from the small-leaved linden by its coarser dentations. (Adapted from *Schneider, Illustrirtes Handbuch der Laubholzkunde*, vol. 2, p. 374.)

57346. TILIA MANDSHURICA Rupr. and Maxim. Tiliaceæ. Linden.

"A very large-leaved linden growing here and there in the forests. Locally used for making water troughs, barrels, and also beehives. May be utilized in the colder parts of the United States as an ornamental park and shade tree." (*F. N. Meyer*.)

For previous introduction, see S. P. I. No. 20292.

7347 to 57365. TRITICUM AESTIVUM L. (*T. vulgare* Vill.) Poaceæ. Common wheat.

57347. "No. 135. *Kuang tu erh hsiao mai*, from Tubin."

57348. "No. 136. *Kuang tu erh hsiao mai*, from Ninguta."

57349. "No. 137. *Kuang tu erh hsiao mai*, from Ninguta."

57350. "No. 138. *Kuang tu erh hsiao mai*, from Ninguta."

57351. "No. 139. *Kuang tu erh hsiao mai*, from Ninguta."

57352. "No. 145. *Hsiao mai*, from Mulin."

57353. "No. 146. *Hsiao mai*, from Ninguta."

57354. "No. 147. *Hsiao mai*, from Ninguta."

57355. "No. 148. *Hsiao mai*, from Mulin."

57356. "No. 149. *Hsiao mai*, from Mulin."

57357. "No. 155. *Ta wan hsiao mai*, from Ninguta."

57358. "No. 156. *Ta wan hsiao mai*, from Ninguta."

57359. "No. 157. *Ta wan hsiao mai*, from Ninguta."

57274 to 57386—Continued.

57360. "No. 160. *Ta wan hsiao mai*, from Tubin."

57361. "No. 161. From Ninguta."

Received as *Triticum vulgare lutescens* forma *poltavensae*.

57362. "No. 162. From Ninguta."

Received as *Triticum vulgare erythrospermum* forma *graecum amylosum*.

57363. No. 163.

Received as *Triticum vulgare erythrospermum*.

57364. "No. 164. From Ninguta."

Received as *Triticum compactum icterinum*.

57365. "No. 165. From Ninguta."

Received as *Triticum ferrugineum* forma *rossicum*.

57366. *VIBURNUM BUREJAETICUM* Regel and Herd. *Caprifoliaceae*.

A shrub, 4 to 10 feet high, native of Chosen. The small light-green leaves and the small umbels of white flowers, followed by the jet-black berries, make this plant very ornamental. (Adapted from note of F. N. Meyer, August 20, 1906.)

For previous introduction, see S. P. I. No. 43730.

57367. *VITIS AMURENSIS* Rupr. *Vitaceae*. Amur grape.

A strong-growing deciduous vine somewhat similar in habit to *Vitis vinifera*. It is worth growing as an ornamental for its vigorous habit and for the fine crimson and purple autumn hues of its foliage. It is native to Chosen (Korea) and northeastern China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 2, p. 666.)

57368 to 57386. *ZEA MAYS* L. *Poaceae*. Corn.

57368. "No. 1. *Niang pao mi*, a glutinous white corn from Ninguta."

57369. "No. 2. *Niang pao mi*, a glutinous white corn from Tubin."

57370. "No. 5. *Pai pao mi*, a white corn from Ninguta."

57371. "No. 6. *Pai pao mi*, a white corn from Ninguta."

57372. "No. 8. *Pai pao mi*, a white corn from Ninguta."

57373. "No. 9. *Pai pao mi*, a white corn from Mulin."

57374. "No. 10. *Pai pao mi*, a white corn from Mulin."

57375. "No. 11. *Pai pao mi*, a white corn from Tubin."

57376. "No. 15. *Huang pao mi*, a yellow corn from Tubin."

57377. "No. 16. *Huang pao mi*, a yellow corn from Ninguta."

57378. "No. 18. *Huang pao mi*, a yellow corn from Mulin."

57379. "No. 19. *Huang pao mi*, a yellow corn from Ninguta."

57274 to 57386—Continued.

57380. "No. 22. *Huang pao mi*, a yellow corn from Mulin."

57381. "No. 25. *Huang pao mi*, a yellow corn from Mulin."

57382. "No. 26. *Hung pao mi*, a red corn from Ninguta."

57383. "No. 27. *Hung pao mi*, a red corn from Ninguta."

57384. No. 28.

57385. "No. 30. *Hei pao mi*, a black corn from Ninguta."

57386. "No. 32. *Hei pao mi*, a black corn from Mulin."

57387 to 57394.

From Sayo, Abyssinia. Seeds presented by Fred L. Russell, agricultural missionary. Received June 28, 1923. Quoted notes by Mr. Russell.

57387. *ELEUSINE CORACANA* (L.) Gaertn. *Poaceae*. Ragi.

"*Dagooja*. The seeds of this plant form an important food in western Abyssinia; for human consumption they are parched and cooked as porridge. The straw is a favorite stock feed."

57388. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. *Poaceae*. Teff.

"*Teff*. Bought in the native market, near the trading center called Sayo by Europeans and Dumbi Dola by the Abyssinians."

57389. *Gossypium* sp. *Malvaceae*. Cotton.

"Seed from cotton obtained in the native market near Sayo."

57390. *Gossypium* sp. *Malvaceae*. Cotton.

"Found growing on an Abyssinian plantation in the lowlands near the River Birbir about 20 miles from where it empties into the Baro or Sobat River."

57391. *HORDEUM DISTICHON PALMELLA* Harlan. *Poaceae*. Two-rowed barley.

"The commonest variety of barley in western Abyssinia."

57392 and 57393. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.) *Poaceae*. Common wheat.

57392. "A variety from western Abyssinia which the natives claim they have always had. Varieties which are not rust resistant do not survive here."

57393. "A variety from western Abyssinia which the natives say has been grown here about 40 years and was probably brought from southern Europe."

57394. *TRITICUM DICOCUM* Schrank. *Poaceae*. Emmer.

"Grown as a minor crop in western Abyssinia."

57395 to 57424. *IPOMOEA BATATAS* (L.) Poir. *Convolvulaceae*. Sweetpotato.

From St. Croix, Virgin Islands. Tubers presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received April 2, 1923. Quoted notes by Mr. Thompson.

57395 to 57424—Continued.

57395. No. 36.

For a description of this plant, see S. P. I. Nos. 56932 and 56933.

57396. "No. 47. A Big Wig seedling. The stems are comparatively short, being 2 to 3 feet in length, are leafy, and cover the bank well. Leaves light green and cordate. The original seedling bore seven tubers weighing 13 ounces. The tubers were light red, short, thick, and not uniform in shape. The flesh is yellow, sometimes mottled with red."

57397. "No. 60. A Black Rock seedling. Vines in the nursery row slender to medium stout, 2 to 3 feet in length, leafy, and covered the bank well. Leaves dark green, broad, and 3 parted, with red midribs. Tubers smooth, short, rounded, coppery red or rose color; flesh yellow, mottled with red."

57398. "No. 63. A Black Rock seedling. Vines short, bunching, leafy. Leaves lobed and to some extent resembling those of Big Wig; midribs and vines green. The original seedling produced seven tubers weighing only 9 ounces. Tubers red and rather rough; flesh yellow."

57399. "No. 65. A Black Rock seedling. The stems are short, 1 to 2 feet long, and stout. Leaves 3 parted, with broad blade; veins and midribs red. The original seedling bore four tubers weighing 3 ounces. Tubers light red; flesh almost white."

57400. "No. 68. A Black Rock seedling. Stems 2 to 3 feet long, stout, green. Leaves large, broad, green; midrib and veins green. The original seedling bore three tubers weighing 5 ounces. Tubers red, variable in form; flesh rich yellow."

57401. "No. 72. A Big Wig seedling. The stems are about 3 feet long and leafy. Leaves dark green, 5 parted; midribs and veins red. The original seedling bore eight tubers weighing 1 pound. Tubers dark red; flesh yellow or yellow mottled with red."

57402. "No. 82. A Big Wig seedling. Leaves large, broadly lanceolate, with red midribs and veins. The original seedling bore 12 tubers weighing $2\frac{1}{4}$ pounds. Tubers red, smooth; flesh pale yellow."

57403. "No. 84. A Big Wig seedling. Vines 1 to 2 feet in length and leafy. Leaves 3 parted; midribs and veins amber."

57404. "No. 89. A Big Wig seedling. Stems 1 to 2 feet long, leafy. Leaves large, dark green, 5 parted, deeply cut and lobed; midribs and veins red. The original seedling bore two tubers weighing 1 ounce. Tubers light red, rough and irregular in shape; flesh almost white, sometimes mottled with red; cooks rather wet."

57405. No. 92.

For a description of this plant, see S. P. I. Nos. 56948 to 56951.

57406. "No. 93. A Big Wig seedling. Stems 1 to 2 feet long and leafy. Leaves dark green, lobed, 3 or 5 parted; midribs and veins red. Tubers light red, irregular in form; flesh white or white mottled with red."

57407. No. 125.

For a description of this plant, see S. P. I. No. 56959.

57395 to 57424—Continued.

57408. "No. 140. A Big Wig seedling. Stems 18 to 30 inches long, leafy. Leaves 5 lobed and resembling the Big Wig variety, dark green; midribs red. The original seedling bore seven tubers weighing 1 pound 10 ounces. Tubers dark red; flesh pale yellow with sometimes a trace of red mottling."

57409. "No. 145. A Big Wig seedling. Stems bunching, 1 to 2 feet long. Leaves small, deeply cut, with long narrow lobes. The original seedling produced one tuber weighing 2 ounces. Tubers smooth, light red; flesh pale yellow."

57410. "No. 155. A Big Wig seedling. The original seedling yielded eight tubers weighing 1 pound 6 ounces. Stems bunching, 12 to 18 inches long. Leaves dark green, broad; midribs and veins green. Tubers dark red, long, spindle shaped; flesh yellow."

57411. "No. 192. A Black Rock seedling. Stems 12 to 18 inches long, bunching and leafy. Leaves 3 or 5 parted, not deeply cut; midribs green. The original seedling produced 10 tubers weighing 1 pound 9 ounces. Tubers light red; flesh pale yellow."

57412. No. 217.

For a description of this plant, see S. P. I. Nos. 56977 to 56980.

57413. "No. 220. A Key West 'yam' (Porto Rico) seedling. The original seedling bore three tubers weighing 12 ounces. Tubers smooth, coppery red or rose color; flesh a deep golden yellow."

57414. No. 223.

For a description of this plant, see S. P. I. Nos. 56981 and 56982.

57415. "No. 230. A Big Wig seedling. Original seedling produced 12 tubers weighing 1 pound 14 ounces. Tubers dark red, smooth, shining; flesh yellow."

57416. "No. 285. A Big Wig seedling. Tubers long, spindle shaped, dark red; flesh pure white."

57417. "No. 300. A Black Rock seedling. Tubers cream yellow, long, smooth, spindle shaped. Flesh yellow, sometimes mottled with a little red; cooks dry, dark yellow, sweet, and of good quality."

57418. No. 306.

For a description of this plant, see S. P. I. No. 56995.

57419. "Big Wig variety."

For a description of this variety, see S. P. I. Nos. 56996 and 56997.

57420. "Black Rock variety."

For a description of this variety, see S. P. I. Nos. 56998 to 57000.

57421. "Hug-me-tight variety."

For a description of this variety, see S. P. I. Nos. 57001 and 57002.

57422. "John Siddon variety."

For a description of this variety, see S. P. I. Nos. 57003 and 57004.

57423. "Key West 'yam' variety."

For a description of this variety, see S. P. I. Nos. 57005 to 57010.

57424. "Wrenchy variety."

For a description of this variety, see S. P. I. Nos. 57011 and 57012.

57425 to 57514. IPOMOEA BATATAS (L.)
Poir. Convolvulaceæ. Sweetpotato.

From St. Croix, Virgin Islands. Tubers presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received May 23, 1923. Quoted notes by Mr. Thompson.

"Grown at the Virgin Islands Experiment Station in 1922."

57425 to 57436. "Big Wig seedlings."

57425. "No. 1. Vines short and bunching; stems rather slender, hairy, and dark chocolate red; leaves deeply cut, 5 parted; midribs and veins red; tuber dark red. Original seedling bore seven tubers weighing $1\frac{1}{2}$ pounds."

57426. "No. 10. Vines short, 2 to 3 feet long, and leafy; leaves large, 3 pointed; petioles 4 to 8 inches long, green with red blotch at juncture with leaf."

57427. "No. 12. Vines short, bunching, 12 to 18 inches long, stout, and leafy; leaves 5 parted; petioles 6 to 12 inches long, green to wine colored; tubers dark red. Original seedling yielded three tubers weighing 1 pound and 1 ounce."

57428. "No. 21. Vines 1 to 2 feet long, of average leafiness; leaves medium sized, deeply lobed, blade narrow, variable in pattern, some 3 and others 5 parted; midribs amber to green and not very thrifty in appearance as grown in nursery; tubers red. Original seedling bore six tubers weighing in all 13 ounces."

57429. "No. 23. Vines 24 to 30 inches long, moderately stout, green, and bearing a rank growth of large, broad, 3-parted dark-green leaves; midribs and veins green; tubers dark red. Original seedling bore three tubers weighing 5 ounces."

57430. "No. 27. Vines 3 feet long; leaves dark green, 5 parted; tubers light red. Original seedling bore seven tubers weighing 1 pound 3 ounces."

57431. "No. 32. Vines stout, 24 to 30 inches long with an abundance of foliage; leaves small to medium sized, very dark green; midribs and veins red, broad and usually 3 parted; tubers red. Original seedling bore one tuber weighing 1 ounce."

57432. "No. 33. Vines very long, slender, reaching out 10 to 15 feet on either side of the row; leaves not numerous, small, cordate, dark green; tubers red. Original seedling bore 18 tubers weighing a total of 2 pounds."

57433. "No. 34. Vines stout, 2 to 3 feet long; leaves large, lobed, 3 and 5 parted, light green; midribs and veins wine colored; tubers red blotched with white, flesh yellow."

57434. "No. 44. Vines 12 to 18 inches long, bunching; leaves small to medium sized, dark green, cordate; midribs amber to wine colored; tubers smooth, light red. Original seedling bore four tubers weighing an aggregate of 12 ounces."

57435. No. 45.

For a description of this plant, see S. P. I. No. 56941.

57436. "No. 46. Vines short and bunching; leaves medium sized, 5 parted; tubers white; flesh pale yellow, sometimes mottled with a little red."

57425 to 57514—Continued.

57437 to 57442. "Black Rock seedlings."

57437. "No. 48. Vines 24 to 30 inches long, leafy; leaves light green, cordate-pointed; midribs and veins light wine colored; tubers light red, flesh yellow, sometimes mottled with red. Original seedling bore four tubers weighing 12 ounces."

57438. "No. 49. Vines 3 feet long, covering bank completely; leaves numerous, dark green, cordate; midribs and veins red; tubers red, flesh yellow. Original hill bore 18 tubers with a total weight of 2 pounds 5 ounces."

57439. "No. 53. Vines 1 to 2 feet long, bunching; leaves very numerous, large, dark green, 3 or 5 parted; midribs and veins red; tubers red, flesh yellow. Original seedlings bore one tuber weighing 2 ounces."

57440. "No. 54. Vines 1 to 2 feet long, leafy; leaves rather light green, medium sized, and relatively broad, 3 parted; midribs and veins red; tubers peculiar frosty or glaucous red, flesh pale yellow, sometimes mottled with a little red. Original seedling bore five tubers weighing a total of 3 ounces."

57441. "No. 64. Vines 18 to 24 inches long, very leafy, covering bank and interspaces between rows; leaves dark green, deeply cut and lobed, 5 parted with long narrow blade and narrow sharp-pointed lobes; midribs and veins red; tubers red, flesh pale yellow. Original seedling bore no tubers."

57442. "No. 71. Vines 1 to 2 feet long; leaves small, 3 to 5 parted; midribs and veins amber to wine colored; tubers red, flesh pale yellow."

57443 to 57472. "Big Wig seedlings."

57443. No. 74.

For a description of this plant, see S. P. I. No. 56946.

57444. No. 75.

For a description of this plant, see S. P. I. No. 56947.

57445. "No. 78. Vines 3 feet long, leafy; leaves dark green, deeply cut and lobed, blades narrow; midribs and veins wine colored; tubers dark red, flesh pale yellow. Original seedling matured 10 tubers with a total weight of 1 pound 15 ounces."

57446. "No. 85. Vines 1 to 2 feet long, leafy; leaves dark green, 3 parted, long with a broad pointed blade; midribs and veins red; tubers dark red, flesh yellow. Original seedling yielded three tubers weighing 7 ounces."

57447. "No. 94. Vines are about 3 feet long; leaves 3 to 5 parted; midribs and veins amber; tubers red, flesh yellow."

57448. "No. 99. Vines 12 to 18 inches long, stout, leafy; leaves 3 parted; midribs red; tubers glaucous or frosty red, flesh very pale yellow to almost white. Original seedling bore three tubers weighing 5 ounces."

57449. "No. 101. Vines 1 to 3 feet long; leaves deeply cut with long narrow lobes; midribs and veins red; tubers red, flesh yellow. Original seedling bore four tubers weighing 13 ounces."

57425 to 57514—Continued

57450. "No. 104. Vines bunching, with dense foliage; leaves large, dark green, 5 parted, blade long and broad; midribs green to amber. Tubers dark red, flesh yellow and mottled with red. Original seedling bore three tubers weighing 7 ounces."

57451. "No. 107. Vines green, short and bunching; leaves green and cordate, resembling those of Black Rock in form, but with margins of younger leaves wine colored as in the Key West 'yam'; midribs and veins green; tubers coppery red to rose, flesh pale yellow. Original seedling bore two tubers weighing 6 ounces."

57452. No. 112.

For a description of this plant, see S. P. I. No. 56956.

57453. "No. 114. Vines short, plants bunching in habit; leaves dark green, large, 5 parted; midribs and veins red; tubers glaucous, frosty red, flesh pale yellow and mottled with red. Original seedling bore three tubers weighing 15 ounces."

57454. "No. 115. Vine short, bunching; leaves numerous, light yellow, 5 parted with narrow lobes; midribs wine colored with veins usually green; tubers with yellow skin and deep golden yellow flesh."

57455. "No. 117. Vines 1 to 2 feet long; leaves small, 3 to 5 parted; midribs and veins green; tubers glaucous red, flesh pale yellow."

57456. "No. 120. Vines 2 to 3 feet long, stout; leaves dark green, cordate; midribs wine colored; tubers red, flesh pale yellow, sometimes mottled with red."

57457. No. 122.

For a description of this plant, see S. P. I. No. 56957.

57458. No. 123.

For a description of this plant, see S. P. I. No. 56958.

57459. "No. 127. Vines small, bunching, erect; leaves very small, deeply cut, ragged in outline, 5 parted; midribs and veins green; tubers pale yellow, flesh deep golden yellow. Original seedling bore seven tubers weighing 1 pound."

57460. "No. 130. Vines 4 to 10 feet long; leaves lanceolate, shouldered; midribs green; tubers white, flesh pale yellow. Original seedling bore two tubers weighing 8 ounces."

57461. "No. 132. Vines low growing, bunching, and leafy; leaves small, dark green, cordate, pointed; midribs and veins red; tubers light coppery red or rose, flesh yellow and mottled with red. Original seedling yielded four tubers weighing 1 pound 2 ounces."

57462. "No. 135. Vines short and stout; 12 to 18 inches long, green; leaves cordate, pointed; midribs and veins green; tubers red, flesh yellow."

57463. "No. 143. Vines stout, hairy, 1 to 2 feet long, erect or ascending in habit; leaves comparatively small, cordate; midribs and veins wine colored; tubers dark red, flesh white, sometimes mottled with a little red. Original seedling bore three tubers weighing 1 pound 3 ounces."

57425 to 57514—Continued

57464. "No. 147. Vines short, 12 to 18 inches long; leaves small; midribs and veins red; tubers red, flesh pale yellow badly mottled with red. Original seedling bore two tubers weighing 2 ounces."

57465. "No. 148. Vines 2 to 5 feet long; leaves sparse, usually 3 parted; midribs and veins amber; tubers light red, flesh dark yellow. Original seedling bore five tubers weighing 9 ounces."

57466. "No. 149. Vines 2 to 3 feet long, leafy; leaves dark green, 5 parted; midribs and veins wine colored; tubers dark red, flesh yellow and mottled with red. Original seedling bore one tuber weighing 1 ounce."

57467. "No. 150. Vines 12 to 30 inches long; leaves very dark green, 3 parted, favoring those of Key West 'yam' but darker; midribs and veins green; tubers red, flesh yellow."

57468. No. 153.

For a description of this plant, see S. P. I. Nos. 56964 to 56966.

57469. "No. 154. Vines small, bunching, leafy; leaves light green, 5 parted, blade broad; midribs light wine colored; tubers dark red, flesh yellow. Original seedling bore four tubers weighing 9 ounces."

57470. "No. 159. Vines 12 to 18 inches long, bunching; leaves small to medium sized, dark green, relatively broad; midribs and veins green; tubers red, flesh yellow. Original seedling bore eight tubers weighing 1 pound 10 ounces."

57471. "No. 160. Vines 1 to 2 feet long, leafy; leaves small to medium sized, dark green; midribs and veins dark wine colored; tubers red, flesh yellow. Original seedling bore seven tubers weighing 1 pound 5 ounces."

57472. "No. 164. Vines 1 to 2 feet long; leaves cut in five long narrow lobes; midribs and veins amber; tubers red. Original seedling produced red roots without tubers."

57473 to 57485. "Black Rock seedlings."

57473. "No. 167. Vines short and bunching; stems 1 to 2 feet long; leaves cordate, medium sized; midribs and veins red; tubers red, flesh pale yellow."

57474. No. 169.

For a description of this plant, see S. P. I. Nos. 56968 to 56970.

57475. "No. 179. Vines 12 to 30 inches long; leaves medium to large, lanceolate; midribs amber to wine colored; tubers dark red, flesh pale yellow to almost white. Original seedling produced 16 tubers that weighed 1 pound 2 ounces."

57476 and 57477. No. 188.

For a description of this plant, see S. P. I. No. 56971.

57476. (No. 1.) 57477. (No. 2.)

57478. "No. 189. Vines 2 to 6 feet long, slender; leaves 5 parted but not deeply cut; midribs amber to wine colored; tubers red, flesh pale yellow. Original seedling bore seven tubers weighing 1 pound 7 ounces."

57425 to 57514—Continued.

57479. "No. 194. Vines stout, 1 to 3 feet long; leaves large, cordate or cordate-lanceolate; midribs and veins red; tubers pale yellow, flesh yellow. Original seedling bore seven tubers weighing 1 pound."

57480. "No. 202. Vines bunching, leafy; 12 to 30 inches long; leaves dark green, 3 parted; midribs and veins red; tubers dark red, flesh yellow. Original seedling bore seven small tubers having a total weight of 13 ounces."

57481. "No. 203. Vines short and stout, 1 to 2 feet long; leaves dark green, medium sized, 5 parted; midribs and veins red; tubers red, flesh yellow. Original seedling bore seven tubers weighing 1 pound 13 ounces."

57482. "No. 207. Vines short, 12 to 24 inches long, leafy; leaves large, 5 parted; midribs and veins light wine colored; tubers yellow, flesh yellow. Original seedling produced white roots without tubers."

57483. "No. 208. Vines short and leafy, 12 to 30 inches long; leaves 5 parted; blades large and broad, petioles 8 to 12 inches; midribs wine colored, veins amber; tubers red, flesh yellow. Original seedling bore seven tubers weighing 11 ounces."

57484. "No. 209. Vines 3 to 4 feet long, moderately stout; leaves entire, cordate-lanceolate, immature ones wine colored, as in Key West 'yam,' especially on margins; midribs and veins amber; tubers light red, flesh yellow. Original seedling bore 10 tubers weighing 2 pounds 11 ounces."

57485. "No. 212. Vines up to 5 feet long; leaves large, dark green, ornamental, broad, shouldered; midribs and veins red; tubers yellow, flesh yellow mottled with red. Original seedling bore seven tubers weighing 14 ounces."

57486 to 57490. "Key West 'yam' seedlings."

57486. "No. 219. Vines short, bunching, 1 to 2 feet long; leaves small to medium sized, 5 parted; midribs and veins amber to wine colored; tubers red, flesh yellow. Original seedling bore one tuber weighing 11 ounces."

57487. "No. 224. Vines stout, 3 to 4 feet long; leaves large, broad, triangular; midribs and veins red; tubers yellow with a very light rose tint, flesh yellow. Original seedling produced four tubers weighing 1 pound 9 ounces."

57488. "No. 225. Vines short, 1 to 2 feet long, green; leaves medium sized, variable in form; midribs and veins green. Tubers light red, flesh pale yellow. Original seedling bore 13 tubers weighing 1¾ pounds."

57489. No. 226.

For a description of this plant, see S. P. I. Nos. 56983 to 56985.

57490. "No. 227. Vines stout, 12 to 30 inches long, green; leaves large, dark green, cordate, and occasionally marginally notched; midribs and veins green; tubers dark yellow with rose tint; flesh yellow, badly mottled with red. Original seedling bore seven tubers weighing 2 pounds."

57425 to 57514—Continued.

57491 and 57492. Big Wig seedlings."

57491. "No. 228. Vines 12 to 30 inches long, hairy, and red; leaves medium to large, deeply cut and lobed, 5 parted; midribs and veins dark wine colored; tubers red with a thick red under-skin, flesh yellow and mottled with red. Original seedling bore five tubers weighing 8 ounces."

57492. "No. 229. Vines 2 to 5 feet long, leafy; leaves 5 parted; midribs and veins wine to amber; tubers yellow, flesh deep yellow. Original seedling bore eight tubers weighing 10 ounces."

57493 to 57498. "Black Rock seedlings."

57493. "No. 234. Vines short, 1 to 2 feet long, stout; leaves cordate, triangular, or variably cut on margins; midribs and veins red; tubers light red, flesh yellow."

57494. No. 235.

For a description of this plant, see S. P. I. Nos. 56986 to 56988.

57495. "No. 244. Vines bunching, 1 to 2 feet long; leaves 5 parted; midribs and veins dark red; tubers red, flesh pale yellow or almost white. Original seedling bore four tubers weighing 1 pound 3 ounces."

57496. No. 247.

For a description of this plant, see S. P. I. Nos. 56991 to 56993.

57497. "No. 249. Vines 12 to 30 inches long; leaves large, shouldered, blades broad; midribs and veins wine colored. Original seedling bore four tubers weighing 5 ounces."

57498. "No. 252. Vines slender, ascending, 12 to 30 inches long; leaves small, entire or notched at shoulder, the younger leaves wine colored at the margins; midribs and veins red; tubers red, flesh yellow and mottled with red. Original seedling bore 10 tubers weighing 1¼ pounds."

57499 to 57505. "Big Wig seedlings."

57499. "No. 253. Vines bunching, stout, 1 to 2 feet long, leafy; leaves large, 3 or 5 parted, broad blade; midribs and veins red; tubers red, flesh pale yellow. Original seedling bore light-red roots but no tubers."

57500. "No. 254. Vines 2 to 4 feet long; leaves deeply cut in five long narrow parts; midribs and veins red; tubers red, flesh white. Original seedling bore dark-red roots without tubers."

57501. "No. 255. Vines 12 to 30 inches long; leaves lanceolate, sometimes shouldered or 3 parted, pea green; midribs and veins green; tubers red, flesh yellow. Original seedling bore dark-red roots but no tubers."

57502. "No. 256. Vines bunching, leafy, 1 to 2 feet long; leaves dark green, 5 parted, resembling Big Wig parent; midribs and veins red; tubers red, flesh yellow and mottled with red. Original seedling bore 17 tubers weighing 2 pounds 2 ounces."

57503. "No. 258. Vines 1 to 2 feet long, stout; leaves large, irregularly cut and variable in pattern; midribs and veins red; tubers light red, flesh white. Original seedling bore two tubers weighing 1 pound 6 ounces."

57425 to 57514—Continued.

57504. "No. 262. Vines slender, hairy, 3 to 6 feet long; leaves light green, large, cordate; midribs and veins wine colored; tubers red, flesh yellow. Original seedling bore two tubers weighing 12 ounces."

57505. "No. 264. Vines short, 1 to 3 feet long; leaves large, dark green, cordate; midribs and veins amber to wine colored; tubers red, flesh pale yellow, occasionally mottled with a little red. Original seedling bore four tubers that weighed 1 pound 13 ounces."

57506 to 57508. "Parentage unknown."

57506. "No. 272. Vines bunching, 1 to 2 feet long; leaves small, 5 parted; midribs wine colored; tubers red, flesh pale yellow. Original seedling bore light-red roots without tubers."

57507. "No. 274. Vines 1 to 3 feet long, red, ascending; leaves triangular or 3 parted; midribs wine colored; tubers dark red, flesh yellow. Original seedling bore four tubers weighing 4 ounces."

57508. "No. 277. Vines stout, 2 to 3 feet long; leaves large, shouldered or 3 parted, blades broad; tubers red, flesh yellow. Original seedling bore nine tubers weighing 2¼ pounds."

57509 and 57510. "Volunteer seedlings from a Big Wig plat."

57509. "No. 290. Vines stout, ascending, 1 to 2 feet long; leaves light green, lanceolate or shouldered; midribs and veins amber to red; tubers yellow, flesh yellow and mottled with red. Eleven hills in the nursery yielded 6 pounds of tubers."

57510. "No. 292. Vines 1 to 2 feet long; leaves large, dark green, cordate-pointed; midribs green to amber; tubers red, flesh white and mottled with red. Eight hills in the nursery produced 8¾ pounds."

57511 and 57512. "Volunteer seedlings from a Key West 'yam' plat."

57511. "No. 295. Vines 2 to 4 feet long; leaves medium sized, cut in five long, narrow lobes; midribs and veins amber to wine colored; tubers red, flesh yellow. In the nursery 14 hills bore 13¾ pounds of tubers."

57512. "No. 297. Vines from 2 to 4 feet long, stout and leafy; leaves light green, large, cordate; midribs and veins amber to green; tubers red, flesh yellow. Seven hills in the nursery row yielded 8 pounds of tubers."

57513 and 57514. "Volunteer seedlings from a Black Rock plat."

57513. "No. 299. Vines 1 to 3 feet long; leaves large, long; midribs and veins amber to green; tubers yellow with a tint of rose, flesh yellow. Eight hills in the nursery row produced 10¾ pounds of tubers."

57514. "No. 305. Vines 1 to 2 feet long, stout and leafy; leaves 5 parted, blades broad; midribs and veins red; tubers coppery red or rose, flesh white and mottled with red."

57515 to 57611.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Quoted notes by Mr. Borodin.

A collection of seeds from the Ekaterinoslav Agricultural Experiment Station, introduced for department specialists.

57515. *BROMUS SQUARROSUS* L. Poaceæ.
Grass.

"No. 188. 1916 crop."

57516 and 57517. *FESTUCA OVINA SULCATA* Hack. Poaceæ.
Grass.

57516. "No. 459. 1915 crop. Originally from Turgai."

57517. "No. 463. 1915 crop. Originally from Samava."

57518 to 57523. *HORDEUM* spp. Poaceæ.
Barley.

57518. *HORDEUM DISTICHON NUDUM* L.
Naked barley.

"No. 0155. 1920 crop."

57519 to 57521. *HORDEUM DISTICHON PALMELLA* Harlan. Two-rowed barley.

57519. "No. 02. 1919 crop."

57520. "No. 0254. 1920 crop."

57521. "No. 0285. 1920 crop."

57522. *HORDEUM VULGARE PALLIDUM* Seringe.
Six-rowed barley.

"No. 0103A. Originally from Petrograd Bureau of Applied Botany."

57523. *HORDEUM VULGARE PALLIDUM* Seringe.
Six-rowed barley.

"Groushevka 6-rowed barley."

57524. *MEDICAGO PLATYCARPA* (L.) Trautv. Fabaceæ.

"No. 535. 1916 crop. Originally from Tomsk."

57525 to 57535. *MEDICAGO SATIVA* L. Fabaceæ.
Alfalfa.

57525. "1918 crop."

57526. "1914-15 crop. 'Arabian.'"

57527. "No. 511. 1918 crop. Originally from Fergana, Turkestan."

57528. "No. 513. 1914-15 crop. Originally from Altai Mountains."

57529. "No. 514. 1914-15 crop. Originally from Gokcha, Erivan."

57530. "No. 742. 1914-15 crop."

57531. "No. 743. 1914-15 crop."

57532. "No. 744. 1914-15 crop."

57533. "No. 745. 1914-15 crop."

57534. "No. 746. 1914-15 crop."

57535. "No. 749. 1916 crop. Originally from Kherson."

57536. *TRITICUM DICOCUM* Schrank. Poaceæ.
Emmer.

"No. 1466. 1916 crop."

57515 to 57611—Continued.

57537 to 57610. TRITICUM DURUM Desf.
Poaceæ. Durum wheat.

"All the 1920 crop, taken from Marinpol varieties."

57537. No. 28.	57574. No. 105.
57538. No. 29.	57575. No. 106.
57539. No. 30.	57576. No. 108.
57540. No. 32.	57577. No. 114.
57541. No. 34.	57578. No. 120.
57542. No. 36.	57579. No. 121.
57543. No. 37.	57580. No. 122.
57544. No. 40.	57581. No. 123.
57545. No. 41.	57582. No. 125.
57546. No. 42.	57583. No. 128.
57547. No. 43.	57584. No. 129.
57548. No. 44.	57585. No. 130.
57549. No. 48.	57586. No. 131.
57550. No. 50.	57587. No. 134.
57551. No. 52.	57588. No. 135.
57552. No. 53.	57589. No. 138.
57553. No. 54.	57590. No. 139.
57554. No. 55.	57591. No. 140.
57555. No. 58.	57592. No. 144.
57556. No. 60.	57593. No. 148.
57557. No. 64.	57594. No. 150.
57558. No. 65.	57595. No. 151.
57559. No. 66.	57596. No. 185.
57560. No. 70.	57597. No. 195.
57561. No. 74.	57598. No. 204.
57562. No. 75.	57599. No. 211.
57563. No. 81.	57600. No. 212.
57564. No. 83.	57601. No. 213.
57565. No. 84.	57602. No. 217.
57566. No. 89.	57603. No. 225.
57567. No. 90.	57604. No. 227.
57568. No. 91.	57605. No. 230.
57569. No. 95.	57606. No. 233.
57570. No. 99.	57607. No. 236.
57571. No. 101.	57608. No. 237.
57572. No. 103.	57609. No. 238.
57573. No. 104.	57610. No. 239.

57611. STIPA PENNATA LESSINGIANA (Trin.
and Rupr.) Richter. Poaceæ. Grass.

Many of the species of Stipa are valuable as fodder grasses, and this native Siberian species is introduced for testing in this country.

57612 to 57664.

From Egypt. Seeds collected by Dr. H. V. Harlan, Bureau of Plant Industry. Received June 20, 1923. Quoted notes by Doctor Harlan.

Introduced for department cerealists.

57612 to 57627. HORDEUM DISTICHON PAL-
MELLA Harlan. Poaceæ.

Two-rowed barley.

"From the district of Mariut."

57612. "(No. 76b. Eseila. May 7, 1923.)
Spikes from the field of Zein Mokhtar."

57612 to 57664—Continued.

57613. "(No. 77b. Sidi Shaher Roho.
May 7, 1923.) Spikes of barley col-
lected in a field."

57614. "(No. 79b. Eseila. May 7, 1923.)
Spikes collected in the field of Abdel
Kerim Olyan."

57615. "(No. 80b. Behig. May 7, 1923.)
Spikes collected in a field."

57616. "(No. 81b. Behig. May 7, 1923.)
Spikes collected in a second field near
Behig."

57617. "(No. 83b. Burg el Arab. May 7,
1923.) Spikes selected in the fields of
three farmers."

57618. "(No. 84b. Burg el Arab. May 7,
1923.) Spikes selected in the fields of
three farmers."

57619. "(No. 87b. Abu Sir. May 7,
1923.) Spikes collected in two fields in
Abu Sir."

57620. "(No. 88b. Behig. May 7, 1923.)
Spikes selected in a field in Behig."

57621. "(No. 90b. Hamaria. May 8,
1923.) Spikes selected in two fields of
standing barley."

57622. "(No. 91b. Hamaria. May 8,
1923.) Spikes selected in two fields of
standing barley."

57623. "(No. 92b. Ikingi Mariut. May
8, 1923.) Spikes selected in two fields
of standing barley."

57624. "(No. 93b. Ikingi Mariut. May
8, 1923.) Spikes selected in two fields
of standing barley."

57625. "(No. 96b. Abu Sir. May ,
1923.) Barley spikes from a depression
at Abu Sir, where the water table was
higher than at any other field seen.
The barley was not so ripe."

57626. "(No. 99b. El Faish, Amria.
May 8, 1923.) Spikes from the field of
Sheik Abdel Halim, who has grown it
12 years. Supposed to be the original
Mariout variety."

57627. "(No. 100b. Amria. May 8, 1923.)
Spikes from the field of Ali Abdel
Salsun, who has grown it 25 years.
Supposed to be the original Mariout
variety. Although badly mixed with
barley from the delta and from Asia
Minor, he was able to pick out what
he thought the original form. It was
similar to the California Mariout."

57628 to 57652. HORDEUM VULGARE PALLIDUM
Seringe. Poaceæ. Six-rowed barley.

57628. "(No. 71. Minieh. May 4, 1923.)
Spikes from a field of 'Beladi' ('Beladi'
means village). This local variety con-
tains several types. Grown under
canal irrigations."

57629. "(No. 74. Shousha, Markaz Sa-
molut, Minieh. May 5, 1923.) Barley
from the basin where only the one Nile
irrigation is given. The seed in the
basins is rarely or never changed. Un-
der canal irrigation the seed is often
changed."

"The following are all from the district of
Mariut."

57630. "(No. 76a. Eseila. May 7, 1923.)
Spikes from the field of Zein Mokhtar."

57631. "(No. 77a. Sidi Shaher Roho.
May 7, 1923.) Spikes of barley col-
lected in a field."

57612 to 57664—Continued.

57632. "(No. 78. Sidi Shaher Roho. May 7, 1923.) Spikes from a second field."
57633. "(No. 79a. Eseila. May 7, 1923.) Spikes collected in the field of Abdel Kerim Ol¹ ad."
57634. "(No. 80a. Behig. May 7, 1923.) Spikes collected in a field."
57635. "(No. 81a. Behig. May 7, 1923.) Spikes collected in a second field near Behig."
57636. "(No. 82. El Maroi. May 7, 1923.) Spikes collected in a field."
57637. "(No. 83a. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."
57638. "(No. 84a. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."
57639. "(No. 85. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."
- For an illustration of these last three barleys, see Plate II. Figure 2.
57640. "(No. 86. Abu Sir. May 7, 1923.) Spikes collected in two fields in Abu Sir."
57641. "(No. 87a. Abu Sir. May 7, 1923.) Spikes collected in two fields in Abu Sir."
57642. "(No. 88a. Behig. May 7, 1923.) Spikes selected in a field in Behig."
57643. "(No. 89. El Maroi. May 7, 1923.) Spikes selected in the field of Hashem Journis."
57644. "(No. 90a. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."
57645. "(No. 91a. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."
57646. "(No. 92a. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."
57647. "(No. 93a. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."
57648. "(No. 96a. Abu Sir. May 7, 1923.) Barley spikes from a depression at Abu Sir where the water table was higher than at any other field seen. The barley was not so ripe."
57649. "(No. 97. Ikingi Mariut. May 8, 1923.) Spikes selected in the barley fields."
57650. "(No. 98. Amria. May 8, 1923.) Barley spikes from the field."
57651. "(No. 99a. El Faish, Amria. May 8, 1923.) Spikes from the field of Sheik Abdel Halim, who has grown it 12 years. Supposed to be the original Mariout variety."
57652. "(No. 100a. Amria. May 8, 1923.) Spikes from the field of Ali Abdel Sal-sun, who has grown it 25 years. Supposed to be the original Mariout variety. Although badly mixed with barley from the delta and from Asia Minor, he was able to pick out what he thought the original form. It was similar to the California Mariout."

57612 to 57664—Continued.

57653 to 57664. TRITICUM spp. Poaceae.

57653 to 57656. TRITICUM AESTIVUM L.
(*T. vulgare* Vill.) Common wheat.

57653. "(No. 63. Matay, Minia Province. May 5, 1923.) Spikes from an unusually pure field of wheat. It is possible that the field was seeded to one of the varieties distributed by the Ministry of Agriculture, Gibson or Hindi D. Sample from the field irrigated from canal."

57654. "(No. 64. Istal, district of Minieh. May 5, 1923.) Spikes selected in a field near Istal village. The field was of the type called Hindi. The Hindi was a variety from India. Sample from the field irrigated from a canal."

57655. "(No. 66. Quatocha, district of Minieh. May 5, 1923.) Spikes selected in a field of Hindi wheat irrigated from a canal."

57656. "(No. 68. West Sarla, district of Minieh. May 5, 1923.) Spikes selected in a field irrigated from a canal."

57657 to 57660. TRITICUM DURUM Desf.
Durum wheat.

57657. "(No. 65. Kom Wali, district of Minieh. May 5, 1923.) Spikes from a field near Kom Wali. The field was irrigated from a canal."

57658. "(No. 70. Minieh. May 4, 1923.) Selections from a canal-irrigated field of Hindi. One dark spike from a roadside."

57659. "(No. 72. Minieh. May 4, 1923.) Spikes from a field of Beladi irrigated from a canal."

57660. "(No. 95. District of Mariut. May 7 and 8, 1923.) Wheat spikes from barley fields. The two smaller spikes do not look like the Hindi of the delta when growing. The Romans must have grown some wheat in Mariut. There is none now. There are other wheat spikes in some of the barley samples."

57661 to 57664. TRITICUM TURGIDUM L.
Poulard wheat.

57661. "(No. 67. Shousha, district of Minieh. May 5, 1923.) Spikes from a field of the Beladi type irrigated from a canal."

57662. "(No. 69. Minieh. May 4, 1923.) Spikes selected from a field of Beladi. Field irrigated from a canal."

57663. "(No. 73. Minieh. May 4, 1923.) Sample obtained at a threshing ground. Grown under a canal."

57664. "(No. 75. Shousha, near Minieh. May 5, 1923.) Wheat from the same threshing ground as the barley under No. 74 [S. P. I. No. 57629]. Also basin grown."

57665 to 57675.

From Algeria. Seeds collected by Hilton Simpson. Received June 12, 1923. Quoted notes by Mr. Simpson.

Introduced for department cerealists.

"From Oued Abdi, Aures Mountains."

57665 to 57667. *HORDEUM VULGARE PAL-LIDUM* Seringe. Poaceæ. Six-rowed barley.

57665. "(Menaar.) *Sefra* (yellow)."

57666. "(Menaar.) *Sefra* (yellow). Best seed of its kind."

57667. "(Teniet el Abed.) *Sheir Tell*."

57668 to 57674. *TRITICUM DURUM* Desf. Poaceæ. Durum wheat.

57668. "(Menaar.) *El Hamara* (the red)."

57669. "(Menaar.) *Nab el bel* (tooth of the camel)."

57670. "(Menaar.) *Shetla*."

57671. "(Teniet el Abed.) *Ajini*."

57672. "(Teniet el Abed.) *El Hamara*. Said to be old."

57673. "(Teniet el Abed.) *El Hethba*."

57674. "(Teniet el Abed.) *El Kahala*."

57675. *ZEA MAYS* L. Poaceæ. Corn.

"(Menaar.) Arabic: *Mestora*; Shawiya: *Tarkisht*."

57676. *LILIUM SULPHUREUM* Baker. Liliaceæ. Lily.

From Darjiling, India. Bulbs presented by G. H. Cave, curator, Lloyd Botanic Garden, through Harold Shantz, American vice consul in charge, Calcutta, India. Received June 9, 1923.

A large and handsome lily, native to northern Burma, with an erect green stem 6 or 7 feet high and numerous scattered, linear, bright-green leaves, the longest of which are about 4 inches long and near the base of the plant. The flowers, usually in clusters of two or three, are pendent on long peduncles, fragrant, and sulphur yellow, tinged outside with light red. (Adapted from *Curtis's Botanical Magazine*, pl. 7257.)

57677 to 57679.

From Moron, Buenos Aires, Argentina. Seeds presented by José M. Scasso, district agronomist, Argentine Ministry of Agriculture. Received June 29, 1923. Quoted notes by Sr. Scasso.

57677. *AVENA STERILIS* L. Poaceæ. Oats

"*Avena amarilla del pais*. Common yellow oats, cultivated throughout the country. It is fairly hardy and resistant to trampling. While it is susceptible to rust (*Puccinia coronifera* forma *avenae*), it is not so much so as the other varieties commonly cultivated here. If sown in March it will give two cuttings of green forage and a medium-sized crop of seed in November or December. Instead of cutting for forage, this can be used as pasture, in which case, as mentioned above, it resists trampling."

57678. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

"*Alfalfa saludina*. A variety from the Province of Santiago del Estero. It is very hardy and resistant to trampling and after cutting grows up again with much vigor. On the other hand, it has the defect of losing its leaves when ripe, for which reason it is cut for hay when it is just beginning to flower. If not cut frequently it has a tendency to become woody. Under irrigation it gives seven or eight cuttings of green forage per year in Santiago del Estero. It is called 'saludina' because it is more resistant to alkali and saltpeter than the ordinary variety."

57679. *TRITICUM AESTIVUM* L. Poaceæ. (*T. vulgare* Vill.) Common wheat.

"*Trigo tipo Hungaro*. A semihard type, rather rich in gluten, cultivated in this country for 25 or 30 years. It is one of the varieties most grown here and is moderately rust resistant, but is sensitive to late frosts. The yield is medium. The variety is comparatively early, maturing in about 140 days, and is resistant to trampling. The grain does not shake out easily."

INDEX OF COMMON AND SCIENTIFIC NAMES

- Abutilon molliissimum*, 56908.
Acacia cardiophylla, 56868.
 verniciflua, 56869.
Acanthopanax senticosum, 57274.
 sessiliflorum, 57275.
Agati grandiflora, 57079.
Agropyron cristatum, 57212.
 elongatum, 57221.
 rigidum. See *A. elongatum*.
 sibiricum, 57222.
Akala, *Rubus macraei*, 57226, 57227.
Alfalfa, *Medicago sativa*, 56853, 57525-57535, 57678.
Alloteropsis semialata, 57268.
Ampelocissus acapulcensis, 57218.
Ananas spp., 56851, 56852, 56907.
Androcymbium punctatum, 56821.
Apple, *Malus yunnanensis*, 57225.
Arachis hypogaea, 56842-56849.
Areca sp., 57217.
Artocarpus communis, 57224.
Arundinella anomala, 57276.
Ash, *Frazinus mandshurica*, 57283.
Aspen, *Populus tremula*, 56871, 56872.
Avena ludoviciana, 57042.
 sativa, 56892, 56899, 56900, 57277.
 sterilis, 57043, 57677.
Barberry, *Berberis* sp., 57081.
Barley, *Hordeum* spp., 57013-57034, 57046-57065, 57089, 57094-57114, 57296, 57391, 57518-57523, 57612-57652, 57665-57667.
Bean, broad, *Vicia faba*, 57091.
 common, *Phaseolus vulgaris*, 57341.
 soy. See Soybean.
Berberis sp., 57081.
Betula davurica, 57278.
Birch, *Betula davurica*, 57278.
Bor, *Ziziphus mauritiana*, 56812-56819.
Breadfruit, *Artocarpus communis*, 57224.
Bromus squarrosus, 57515.
Buckthorn, *Rhamnus davurica*, 57311.
 Rhamnus parvifolia, 57312.
Buckwheat, *Fagopyrum vulgare*, 57282.
Calamagrostis epigejos, 57279.
Calydorea speciosa, 57220.
Camellia sasanqua. See *Thea sasanqua*.
Capulin, *Prunus serotina*, 56792.
Caragana boisi, 56808.
Carob, *Ceratonia siliqua*, 56875, 57262, 57263.
Celastrus sp., 57082.
Ceratonia siliqua, 56875, 57262, 57263.
Cherry, *Prunus maackii*, 57310.
Chrysalidocarpus baronii, 57214.
Clover, alsike, *Trifolium hybridum*, 57229-57231.
 crimson, *Trifolium incarnatum*, 56793, 56830, 56893-56895.
 red, *Trifolium pratense*, 56795, 56806, 56807, 56850, 56856, 56870, 56880-56882, 56896-56898, 57036, 57232-57245.
 Trifolium physodes, 57035.
 white, *Trifolium repens*, 57246, 57247.
Coffea excelsa, 57271.
 laurentii, 57272.
 robusta. See *C. laurentii*.
Coffee. See *Coffea* spp.
Coix lacryma-jobi ma-yuen, 56883-56891.
Colocasia esculenta, 56911.
Corn, *Zea mays*, 56862-56867, 56873, 56874, 56902-56905, 57073, 57074, 57368-57386, 57675.
Cotoneaster sp., 57083.
Cotton, *Gossypium* spp., 57248-57259, 57389, 57390.
Crataegus lavalleyi, 56809, 56810.
Crotalaria juncea, 57223.
Cucumber, *Cucumis sativus*, 56805.
Cucumis sativus, 56805.
 sp., 56794.
Cucurbita pepo, 56854.
Dasheen, *Colocasia esculenta*, 56911.
Delphinium sp., 57084.
Dillenia indica, 56791.
Diospyros kaki, 56831-56833, 57075, 57076.
Eleusine coracana, 57387.
Eleutherococcus senticosus. See *Acanthopanax senticosum*.
Emmer, *Triticum dicoccum*, 57394, 57536.
Eragrostis abyssinica, 57388.
Eriochloa villosa, 57280.
Eugenia dombeyi, 57270.
 brasiliensis. See *E. dombeyi*.
Euonymus hamiltonianus, 57281.
Etacum zeylanicum macranthum, 57260.
Fagopyrum vulgare, 57282.
 esculentum. See *F. vulgare*.
Festuca ovina sulcata, 57516, 57517.
Francoa sonchifolia, 56909.
Fraxinus mandshurica, 57283.
Garcinia buchanani, 56799.
 mangostana, 56822.
Glycine hispida. See *Soja max*.
Gomphocarpus physocarpus, 57269.
Gordonia sp., 56823.
Gossypium spp., 57248-57259, 57389, 57390.
Grape, *Ampelocissus acapulcensis*, 57218.
 Amur, *Vitis amurensis*, 57367.
Grass, *Agropyron cristatum*, 57212.
 Agropyron elongatum, 57221.
 sibiricum, 57222.
 Arundinella anomala, 57276.
 Bromus squarrosus, 57515.
 Calamagrostis epigejos, 57279.
 cockatoo, *Alloteropsis semialata*, 57268.
 Eriochloa villosa, 57280.
 Festuca ovina sulcata, 57516, 57517.
 Spodiopogon sibiricus, 57343.
 Stipa pennata lessingiana, 57611.
Grumichama, *Eugenia dombeyi*, 57270.
Hakea acicularis, 56879.
 nodosa, 57211.
Hawthorn, *Crataegus lavalleyi*, 56809, 56810.
Holcus sorghum, 57044, 57045, 57284-57295.
Honeysuckle, *Lonicera maackii*, 57300.
Hordeum deficiens, 57013, 57014.
 distichon nigricans, 57015.
 nudum, 57016, 57518.
 palmella, 57017-57022, 57094, 57095, 57391, 57519-57521, 57612-57627.
 intermedium haxtoni, 57023.
 vulgare coeleste, 57024, 57089.
 horsfordianum, 57025, 57026.
 nigrum, 57027, 57028, 57046.
 pallidum, 57029-57034, 57047-57065, 57096-57114, 57296, 57522, 57523, 57628-57652, 57665-57667.
Ilex spp., 57085, 57086.
Ipomoea batatas, 56920-57012, 57395-57514.
Iris setosa, 57297.
 sp., 56811.
Juniper. See *Juniperus* spp.
Juniperus cedrus, 57080.
 rigida, 57298.
Kaki, *Diospyros kaki*, 56831-56833, 57075, 57076.
Larkspur, *Delphinium* sp., 57084.
Lespedeza bicolor, 57299.
Ligustrum sp., 56824.
Lilac, *Syringa amurensis*, 57344.
Lilium sulphureum, 57676.
Lily, *Lilium sulphureum*, 57676.

Linden, Tilia amurensis, 57345.
Tilia mandshurica, 57346.
Lonicera maackii, 57300.
Luculia sp., 56825.
Lycopersicon esculentum, 56796, 56797, 57077.
Maackia amurensis, 57301.
Malus yunnanensis, 57225.
Mangifera indica, 56838-56841.
Mango, *Mangifera indica*:
Kalihi chutney, 56839.
Victoria, 56840.
West India No. 9, 56838.
Whitney, 56841.
Mangosteen, Garcinia mangostana, 56822.
Ma-yuen, Coix lacryma-jobi ma-yuen, 56883-56891.
Medicago platycarpa, 57524.
sativa, 56853, 57525-57535, 57678.
Nageia thunbergii, 57267.
Oats, *Avena ludoviciana*, 57042.
Avena sativa, 56892, 56899, 56900, 57277.
sterilis, 57043, 57677.
Oryza sativa, 57037-57041, 57302-57308.
Osbeckia rubicunda, 57261.
Palm, *Areca* sp., 57217.
Chrysalidocarpus baronii, 57214.
Pea, *Pisum sativum*, 57090.
Peanut, *Arachis hypogaea*, 56842-56849.
Phaseolus vulgaris, 57341.
Phleum pratense, 56901.
Phyllocarpus septentrionalis, 56906.
Physalis peruviana, 56855.
Phytolacca clavigera, 56800.
Pineapple, *Ananas* spp., 56851, 56852.
wild, Ananas sp., 56907.
Pisum sativum, 57090.
Pittosporum floribundum, 57273.
sp., 56826.
Poa australis, 56910.
Podocarpus thunbergii. See *Nageia thunbergii*.
Poha, *Physalis peruviana*, 56855.
Populus tremula, 56871, 56872.
Potato, *Solanum tuberosum*, 56803, 56912-56919.
sweet. See Sweetpotato.
Prinsepia sinensis, 57087, 57309.
Privet, *Ligustrum* sp., 56824.
Protea lanceolata, 57264.
latifolia, 57265.
rosacea, 57266.
Prunus maackii, 57310.
serotina, 56792.
Pyrus yunnanensis. See *Malus yunnanensis*.
Ragi, *Eleusine coracana*, 57387.
Raspberry, *Rubus ellipticus*, 57228.
Rhamnus davurica, 57311.
parvifolia, 57312.
Rhododendron delavayi, 56857.
spp., 56827, 56828.
Rice, *Oryza sativa*, 57037-57041, 57302-57308.
Rosa davurica, 57313.
sempervirens, 56820.
Rose. See *Rosa* spp.
Rubus ellipticus, 57228.
macraei, 57226, 57227.
Rye, *Secale cereale*, 57115-57138.
Sabinea carinalis, 57078.
Schima sp., 56829.
Schizandra chinensis, 57314.

Secale cereale, 57115-57138.
Sesbania grandiflora. See *Agati grandiflora*.
Soja max, 56834-56837, 57315-57340, 57342.
Solanum commersonii, 57213.
maglia, 57219.
tuberosum, 56803, 56912-56919.
Sorghum, *Holcus sorghum*, 57044, 57045, 57284-57295.
Sorghum arundinaceum, 56801.
versicolor, 56802.
vulgare. See *Holcus sorghum*.
Soybean, *Soja max*, 56834-56837, 57315-57340, 57342.
Spodiopogon sibiricus, 57343.
Stipa pennata lessingiana, 57611.
Stylosanthes erecta, 56798.
Sunn hemp, *Crotalaria juncea*, 57223.
Sweetpotato, *Ipomoea batatas*, 56920-57012, 57395-57514.
Syringa amurensis, 57344.
Tacsonia sp., 57215.
Teff, *Eragrostis abyssinica*, 57388.
Tetragium sp., 56804.
Thea sasanqua, 57088.
Thunbergia grandiflora, 57216.
Tilia amurensis, 57345.
mandshurica, 57346.
Timothy, *Phleum pratense*, 56901.
Tithonia diversifolia, 57093.
Tomato, *Lycopersicon esculentum*, 56796, 56797, 57077.
Trifolium hybridum, 57229-57231.
incarnatum, 56793, 56830, 56893-56895.
physodes, 57035.
pratense, 56795, 56806, 56807, 56850, 56856, 56870, 56880-56882, 56896-56898, 57036, 57232-57245.
repens, 57246, 57247.
Triplaris cumingiana, 57092.
Triticum aestivum, 56858, 56859, 56876-56878, 57139-57185, 57347-57365, 57392, 57393, 57653-57656, 57679.
dicoccum, 57394, 57536.
durum, 57066-57071, 57186-57205, 57537-57610, 57657-57660, 57668-57674.
turgidum, 57206-57210, 57661-57664.
ventricosum, 57072.
vulgare. See *T. aestivum*.
Vegetable marrow, *Cucurbita pepo*, 56854.
Vetch. See *Vicia* spp.
Viburnum burejaeticum, 57366.
Vicia faba, 57091.
tetrasperma, 56860.
unijuga, 56861.
Vitis amurensis, 57367.
Wheat:
common, *Triticum aestivum*, 56858, 56859, 56876-56878, 57139-57185, 57347-57365, 57392, 57393, 57653-57656, 57679.
Bankuti No. 5, 56858.
Bankuti Marquis No. 4, 56859.
Blé de Silène, 56876.
Le Cérés, 56877.
Hybride Inversable, 56878.
durum, Triticum durum, 57066-57071, 57186-57205, 57537-57610, 57657-57660, 57668-57674.
poulard, *Triticum turgidum*, 57206-57210, 57661-57664.
Zea mays, 56862-56867, 56873, 56874, 56902-56905, 57073, 57074, 57368-57386, 57675.
Ziziphus mauritiana, 56812-56819.

ADDITIONAL COPIES

OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.

AT

10 CENTS PER COPY





UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 76



Washington, D. C.

Issued February, 1926

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JULY 1 TO SEPTEMBER 30, 1923 (S. P. I. NOS. 57680 TO 58023)

CONTENTS

	Page
Introductory statement.....	1
Inventory.....	5
Index of common and scientific names.....	21

INTRODUCTORY STATEMENT

AS WITH the preceding inventory (No. 75), the present number contains numerous locally developed strains of cereals and other crop plants. These have been obtained either directly by representatives of the department traveling abroad or through the ever-widening avenues of exchange with foreign agricultural and botanical institutions. The explorations of H. V. Harlan in the Mediterranean region and India were discussed at some length by David Fairchild in the introductory statement to Inventory No. 75. In May, 1923, Doctor Harlan was in Egypt. From that country he sent a number of varieties of barley (*Hordeum vulgare pallidum*; Nos. 57750 to 57755) and also an Abyssinian emmer (*Triticum dicoccum*; No. 57756). By the end of the month he had reached India, where he sent from Poona a collection of seeds, including several legumes for trial as cover crops, and eight local varieties of sorghum (*Holcus sorghum*; Nos. 57835 to 57842). Early June found him in northern India and Kashmir, where several barleys (*Hordeum vulgare pallidum*, Nos. 57892 to 57898) were collected, in addition to a number of varieties of wheat (*Triticum* spp.; Nos. 57901 to 57911) and several leguminous plants.

In addition to the cereals and forage crops which have been obtained through this channel, the present inventory describes a collection of 14 varieties of rice (*Oryza sativa*; Nos. 57868 to 57881) from the Philippines, sent through the courtesy of Adrian Hernandez, Director of the Bureau of Agriculture; a species of clover from high altitudes in Africa (*Trifolium johnstoni*; No. 57698), presented by our valued correspondent, Dr. J. Burt Davy; 25 varieties of alfalfa (*Medicago sativa*; Nos. 57705 to 57729) developed by plant breeders at the Bathurst Experiment Station in South Africa; a wild red clover (*Trifolium pratense*; No. 57939) from Scotland; and seeds of several hardy crop plants from Ekaterinoslav, Russia.

The urgent desirability of breeding disease-resistant varieties of sugar cane (*Saccharum officinarum*) has led to the introduction of many strains of this plant from the Orient, the West Indies, and other regions; Nos. 57757 to 57769 represent a series of crosses which have been obtained from the Sugar Experiment Station at Pasoeroean, Java; and Nos. 57781 to 57794 a number of standard Javanese varieties, as well as crosses, from the same place.

The tropical world, far from being explored horticulturally, still continues to yield new species of fruits for cultivation in regions such as Florida, southern California, Hawaii, Porto Rico, and the Philippines. From the temperate re-

gions of the globe, however, it is difficult to obtain edible fruits unknown to horticulture. Pomological varieties of real merit may be introduced, and it is worthy of note that in recent years more and more of these are coming from the newly developed regions of the globe rather than from Europe, as was the case in the early days of American horticulture. Salvador Izquierdo, of Chile, who has assembled at his place near Santiago one of the finest collections of fruit trees in South America, sends seven new peaches (*Amygdalus persica*; Nos. 57686 to 57692) which he thinks worthy of cultivation in the United States. H. R. Wright, whose New Zealand fruits have already shown much promise in this country, sends from Auckland seven new peaches (*Amygdalus persica*; Nos. 57912 to 57918), several interesting plums (*Prunus* spp.; Nos. 57919 to 57926), and a new pear (*Pyrus communis*; No. 57927), obtained as a seedling of the Bon Chrétien. The King Cole apple (*Malus sylvestris*; No. 57937), sent by its originator, C. F. Cole, of Melbourne, Victoria, Australia, is recommended as resistant to the woolly aphid, and its fruit is of good quality and excellent for shipping. Specimens which Mr. Cole sent from Melbourne by parcel post reached Washington after a journey of six weeks in excellent condition for eating.

In the field of tropical and subtropical fruits this inventory contains a number of promising acquisitions. From Shanghai, China, Col. Clyde S. Ford has sent trees of the large, loose-skinned Swatow orange (*Citrus* sp.; No. 57693), well known and highly appreciated in China. In line with the effort to obtain good stock plants on which to graft the best varieties of the Japanese persimmon cultivated in the United States, Rev. A. S. Cooper has sent from Hupeh Province in central China seeds of the wild *Diospyros kaki* (No. 57733). Attention was directed to this plant three years ago by E. H. Wilson, of the Arnold Arboretum, who believes, from having observed its habits and requirements in its native home, that it will prove one of the best stock plants for the cultivated varieties of the same species.

Nos. 57701 and 57771 represent two lots of plants of the true breadfruit (*Artocarpus communis*), the first lot coming from the Hawaiian Islands and the second from the Canal Zone. Efforts to establish this classic tree of Polynesia in southern Florida have not been successful up to the present, but they will be continued. Its congener, the jack fruit (*A. integræ*), has in recent years come into bearing at Coconut Grove, near Miami, Fla.

It seems strange that we should be introducing superior varieties of the cherimoya (*Annona cherimola*), a native American fruit, from a region as distant as Australia. It appears, however, that this tree has found a congenial home in Queensland and that seedling forms of superior merit have originated there. Pink's Mammoth (No. 57799), from the description given by A. H. Benson, seems to be a finer variety than any which has been grown either in California or Florida.

The giant raspberry of Hawaii (*Rubus macraei*; No. 57849), to which attention was called by Mr. Rock several years ago, has been reintroduced for the benefit of North American plant breeders. Experience indicates that this species may not prove adapted for open-air culture in any part of the continental United States. Like numerous other species of *Rubus* which we have introduced from tropical and subtropical regions, it is exacting in its requirements and withstands little cold.

From the Philippines P. J. Wester sends a rare citrus fruit, the tizon (*Citrus nobilis papillaris*; No. 57854), believed to be a natural hybrid between the mandarin and the pomelo. Dr. A. Robertson Proschowsky forwards from Nice seeds of a primitive form of the plantain (*Musa paradisiaca seminifera*; No. 57859), desired by plant breeders in the American Tropics for use in connection with the attempt to breed new forms of bananas resistant to the Panama disease (*Fusarium cubense*). Henry Pittier's peculiar variety of avocado (*Persea americana*; No. 58019) from Venezuela and Frère J. Gillet's wild *Strychnos* from the Belgian Congo (*Strychnos gillettii*; No. 58020) will both be interesting for trial in southern Florida and the West Indies.

The introduction of Manila hemp, or abaca (*Musa textilis*; Nos. 57694 to 57696) is in line with the department's attempt to establish this valuable fiber plant in tropical America. From western Java Carl Hartley has sent an edible chestnut (*Castanopsis argentea*; No. 57732) which will be tested alongside the other subtropical species of *Castanopsis* and *Castanea* which Mr. Rock has recently obtained in Yunnan. Señor Tamayo, of Ecuador, who has done much to advance the work of plant introduction in that country, sends seeds of several ornamental plants; a tomato (*Lycopersicon esculentum*; No. 57744) which will be tested by breeders

in this country; and a wild potato (*Solanum* sp., No. 57747), also for the use of breeders.

Our efforts to introduce wild South African species of gladiolus for the use of American lovers of this handsome flower have been somewhat discouraging, because of the prohibitive prices which the bulbs command, but it is hoped eventually to obtain many species on a basis of exchange with plantsmen in South Africa who desire material from this country. *Gladiolus psittacinus* (No. 57797) has been forwarded by E. Percy Phillips, of Pretoria, and will be propagated for distribution as rapidly as possible. With his customary generosity, G. H. Cave, of Darjiling, has sent a number of ornamental plants of the Himalayan region, which are described under Nos. 57882 to 57890.

The botanical determinations of seeds introduced have been made and the nomenclature determined by H. C. Skeels, and the descriptive notes have been prepared by Paul Russell, who has had general supervision of this inventory.

WILSON POPENOE,
Agricultural Explorer, Acting in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., August 31, 1925.

INVENTORY¹

57680. PRUNUS CERCASOIDES D. Don.
(*P. puddum* Roxb.). Amygdalaceæ.
Cherry.

From Benenden, Kent, England. Seeds presented by Collingwood Ingram. Received September 17, 1923.

"The pendulous flowers are campanulate and deep rosy red. They are said to appear before the foliage, which is a bright glossy green. The tree, native to the highlands of Burma, is said to endure some frost in its native country." (Ingram.)

57681. OPSIANDRA MAYA O. F. Cook.
Phœnicaceæ. **Palm.**

From Washington, D. C. Plants presented by O. F. Cook, Bureau of Plant Industry. Received September 21, 1923.

A new genus and species from Peten, Guatemala, discovered and described by O. F. Cook. This palm has a slender, tapering trunk about 6 inches in diameter at the base; it grows to a height of 60 feet or more and is supported on a conical mass of thick roots. The leaves are few, usually about five or six, 8 to 9 feet long with about 90 pinnæ on each side of the midrib. The flowers appear several joints below the leaves. The fruit is red and borne in clusters.

The palm is of special interest as having been discovered growing on the ruins of one of the ancient Maya cities. It is a tropical species, of value mainly for botanic gardens and private collections. Adapted from *The Journal of the Washington Academy of Sciences*, vol. 13, p. 182.)

57682. MILLETTIA THONNINGII
(Schum. and Thonn.) Baker. Fabaceæ.

From Loanda, Angola, Africa. Seeds presented by John Gossweiler. Received September 18, 1923.

"A beautiful avenue tree of Loanda; it is easily cultivated here, since it grows well with an annual rainfall of only 300 mm. (12 inches) and can readily be propagated by cuttings 2 meters (6 feet) in length. It evidently is a poisonous species." (Gossweiler.)

A very handsome tree, with large drooping racemes of pale-lilac flowers. It grows to a height of 30 to 40 feet, has compound leaves about 6 inches in length, and very narrow woody pods. (Adapted from *Oliver, Flora of Tropical Africa*, vol. 2, p. 128.)

Introduced for department drug-plant specialists in response to a request for fish-poisoning plants.

¹ It should be understood that the varietal names of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Seed and Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their identity fully established, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized American codes of nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications must necessarily rest with the person sending the material until the plants are grown. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

57683. RUBUS sp. Rosaceæ.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received September 29, 1923.

"(No. 9502. August 11, 1923.) Seeds of three species of edible-fruited *Rubus*, accidentally mixed, collected on the Likiang Snow Range at an altitude of 14,000 feet. These were sent separately last year." (Rock.)

57684 and 57685.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Numbered July, 1923. Quoted notes by Mr. Borodin.

From the Ekaterinoslav Agricultural Experiment Station. Introduced for department agrostologists.

57684. CHAETOCLOA ITALICA (L.) Scribn.
(*Setaria italica* Beauv.). Poaceæ. **Millet.**

"1914 crop. Originally from Gergana."

57685. ELYMUS SIBIRICUS L. Poaceæ. **Grass.**

"1921 crop."

57686 to 57692. AMYGDALUS PERSICA
L. (*Prunus persica* Stokes). Amygdalaceæ.
Peach.

From Santiago, Chile. Trees presented by Salvador Izquierdo. Received July 9, 1923. Quoted notes by Señor Izquierdo, unless otherwise stated.

"These are my best canning varieties."

57686. "Selection No. 1. A variety originated at Señor Izquierdo's nursery, Santa Ines. It is described as a large white cling, round in form, very sweet, and of pleasant flavor. It ripens there in February and is considered excellent both for table use and for preserving." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 54622.

57687. "Selection No. 2. A variety originated very recently at Señor Izquierdo's nursery, Santa Ines, and not yet named. It is a cling of somewhat elliptical form with a sharp point at the apex, white fleshed, and weighing up to 450 grams. It ripens in February at Santa Ines and is considered to be a promising new sort." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 54623.

57686 to 57692—Continued.

57688. "No. 273. *Aurora*. An excellent variety maturing in March at Santa Ines. It is good for table use and suitable for commercial purposes."

57689. "No. 518. *Pomona Mejorada (improved Pomona)*. Flesh yellow, sweet and juicy. A vigorous and hardy variety."

57690. "No. 520. *Reina Elena*. Famous for its fine sweet flavor, yellow color, and perfect form; keeps well for a long time and is especially good for shipping."

57691. "No. 520-b. *Rey Alberto*. Large, red skinned, yellow fleshed, sweet and juicy, with the pit not colored, maturing early in April. An excellent variety for preserving."

57692. "No. 522. *Trasparente de Conservas*. The first white peach to ripen. Flesh white, very transparent; pit not colored; especially fragrant; excellent for preserving. Resistant to disease."

57693. CITRUS sp. Rutaceæ.

From Shanghai, China. Trees presented by Col. Clyde S. Ford, United States Postal Agency. Received July 24, 1923.

"These are trees of the large loose-skinned Swatow orange so highly appreciated in China." (Ford.)

Introduced for department citriculturists.

57694 to 57696. MUSA TEXTILIS Nee. Musaceæ. Abaca.

From the Philippine Islands. Seeds obtained by L. H. Dewey, Bureau of Plant Industry. Received July 7, 1923.

The plants grow in the Philippine Islands, chiefly in volcanic soils of rather loose texture where there is an abundant rainfall but excellent natural drainage. The abaca will probably grow only in warm, moist tropical regions, and it is possible that it will succeed in the Canal Zone." (Dewey.)

Seeds to be grown for department specialists engaged in fiber-plant investigations.

57694. No. 1. 57696. No. 3.

57695. No. 2.

57697. SCLEROSPERMA sp. Phœnicææ. Palm.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received July 11, 1923.

"A superb stemless palm with large entire leaves which should be of interest as a greenhouse plant." (Gillet.)

Received as *Sclerosperma weddendii*, for which a place of publication has not been found.

57698. TRIFOLIUM JOHNSTONI Oliver. Fabaceæ. Clover.

From Kew, England. Seeds presented by Dr. J. Burt Davy. Received July 11, 1923.

"At high altitudes in East Africa clover is one of the prominent forage plants. It grows where the temperature probably never exceeds 85° F. and where for the greater part of the year it is much below this point. However, no frosts occur in this region." (H. L. Shantz.)

A smooth perennial clover with the habit of white clover (*Trifolium repens*), found at an altitude of 10,000 feet on Kilimanjaro, Tanganyika Territory. The leaves are long stemmed, with membranous leaflets and globose flower heads about an inch in diameter. (Adapted from *Transactions of the Linnean Society*, ser. 2, vol. 2, p. 331.)

For previous introduction, see S. P. I. No. 56458.

57699. DIOSCOREA sp. Dioscoreaceæ. Yam.

From Oneroa, Mangaia Island, Cook Islands. Tubers presented by Geoffrey Henry. Received July 5, 1923.

"*Maararau*. Plant the same as ordinary yams; prepare the soil and put the tubers 1 or 2 inches underground." (Henry.)

"The rather small tubers received are more or less globose and have a slightly pink inner skin and white flesh. The quality of this yam when cooked is very good." (R. A. Young.)

57700. HORDEUM VULGARE PALLIDUM Seringe. Poaceæ. Six-rowed barley.

From Egypt. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received July 17, 1923.

"(No. 101. Markaz of Hebha, Province of Sharqiyh. May 14, 1923.) A threshed sample from the threshing floor, Soheich Estate." (Harlan.)

Introduced for department cerealists.

57701. ARTOCARPUS COMMUNIS Forst. Moraceæ. Breadfruit.

From Honolulu, Hawaii. Trees presented by W. T. Pope, horticulturist, Agricultural Experiment Station. Received July 19, 1923.

"There is but one kind of breadfruit in Hawaii; while there are slight variations, due probably to local conditions, there are no true varietal differences." (Pope.)

This variety, which now grows wild throughout the Hawaiian Islands, was originally introduced from Tahiti. It has large, rough, ovate, deeply lobed leaves, and the staminate flowers appear in large yellow catkins. The large-stemmed fruit is either round or oblong and varies from 5 to 8 inches in diameter. The thick, tough rind, brownish at maturity, incloses a firm, very starchy, and somewhat fibrous pulp which becomes mealy when cooked, slightly resembling a dry sweetpotato, and is much esteemed as an article of diet. The tree is propagated by suckers or by layering. (Adapted from G. P. Wilder, *Fruits of the Hawaiian Islands*, p. 100, pl. 48, under *Artocarpus incisa*.)

For previous introduction, see S. P. I. No. 57224.

57702 and 57703.

From Burringbar, New South Wales. Seeds presented by B. Harrison. Received July 2, 1923.

57702. *MICROCITRUS AUSTRALASICA* (F. Muell.) Swingle (*Citrus australasica* F. Muell.). Rutaceæ. Finger lime.

"The finger lime is one of the most curious and interesting of the citrus fruits. The young plants have more or less horizontally arranged branchlets, with very short internodes and small oval young leaves, these much shorter than the stiff, erect spines. The flowers are small, and the fruits are long and slender, 2½ to 4 inches long, with a loose pulp filled with a sour, rather strongly pungent juice. The shrub is native to the mountain scrubs of the coastal region of northern New South Wales and Queensland." (W. T. Swingle.)

For previous introduction, see S. P. I. No. 55588.

57703. *RANDIA* sp. Rubiaceæ.

"A shrub 6 feet high with white sweet-scented flowers resembling those of orange blossoms." (Harrison.)

57704. BERBERIS BEALEI Fortune. Berberidaceæ. Barberry.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received July 2, 1923.

An evergreen shrub of a stiff, erect habit, with thick unbranched stems 10 feet or more in length bearing a few leaves at the top. The leaves, over a foot in length, are composed of 7 to 13 leaflets, which in this variety at times reach a length of 8 inches and a width of 6 inches. The flowers, lemon yellow and delightfully fragrant, are in numerous slender racemes 6 to 9 inches long, terminating the stems, and the oblong purple berries are about half an inch in length. Native to China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 244.)

57705 to 57729. MEDICAGO SATIVA L.
Fabaceæ. Alfalfa.

From Bathurst, Cape of Good Hope, Union of South Africa. Seeds presented by the manager, Bathurst Experiment Station. Received July 2, 1923. Quoted notes by the manager.

57705. "No. 1. Plat 19, subplat H, rows 2 and 3. I consider this the best of the root selections from the Chinese variety, as it is very early and a quick grower."

57706. "No. 2. Selection from *Tamworth*."

57707. "No. 3. Plat 19, subplat B, row 7. Selection from *Chinese*."

57708. "No. 4. Plat 15. Selection from *Arabian*."

57709. "No. 5. Selection from *Chinese*."

57710. "No. 6. Plat 19, subplat A, row 3. Selection from *Chinese*."

57711. "No. 7. Plat 15, subplat 4. Selection from *Chinese*."

57712. "No. 8. Plat 19, subplat D, row 5. *Medicago falcata* × *Hansen*."

57713. "No. 9. Plat 19, subplat C, row 3."

57714. "No. 10. Selection from *Turkestan*."

57715. "No. 11. Plat 19, subplat A. Selection from *Chinese*."

57716. "No. 12. Plat 19, subplat A, row 12. Selection from *Chinese*."

57717. "No. 13. *Cossack* × *Hansen*."

57718. "No. 14. Hybrid flower, '*Falcata*' × *Hansen*."

57719. "No. 15. Plat 19, subplat A, row 11. Selection from *Chinese*."

57720. "No. 16. *Egyptian*."

57721. "No. 17. From three plants of *Arabian*."

57722. "No. 18. Plat 19, subplat C, row 15. Selection from *Chinese*."

57723. "No. 19. Plat 19. Selection from *Chinese*."

57724. "No. 20. Mixed."

57725. "No. 21. Plat 19, subplat H, row 9. Selection from *Chinese*."

57726. "No. 22. *Chinese*."

57727. "No. 23. Selection from *Chinese*."

57728. "No. 24. Plat 19, subplat A, row 3. Selection from *Chinese*."

57729. "No. 25. Plat 19, subplat C, row 14. Selection from *Chinese*."

57730. PANDANUS TECTORIUS Parkins.
Pandanaeæ.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, Department of Botany and Forestry, Experiment Station of the Sugar Planters' Association. Received July 5, 1923.

This "pandan" is widely distributed throughout the Philippine Islands, being abundant along the seashores, where under favorable circumstances it

reaches a height of 15 to 20 feet. The size and length of the leaves vary greatly. The leaves are split into strips and used for making mats or, when bleached, for weaving hats. The lower part of the ripe fruit is covered by a yellowish red pulp, which is of excellent flavor, although not commonly eaten. (Adapted from *Brown, Philippine Fiber Plants*, p. 29.)

57731. PHOENIX RECLINATA Jacq.
Phœnicææ. Palm.

From Pretoria, Union of South Africa. Seeds presented by C. P. Lounsbury, Chief, Division of Entomology. Received July 7, 1923.

A bushy or arborescent palm found native in the coastal districts of South Africa, where it sometimes becomes as much as 40 feet in height. The reclinate pinnate leaves are 6 to 9 feet long, with 30 to 50 pairs of leaflets. The elongate berries, about half an inch long, are yellowish when ripe, with a sweetish pulp. (Adapted from *Marloth, Flora of South Africa*, vol. 4, p. 49.)

For previous introduction, see S. P. I. No. 51734.

57732. CASTANOPSIS ARGENTEA
(Blume) A. DC. Fagaceæ.
Evergreen chestnut.

From Buitenzorg, Java. Seeds presented by H. J. Wigman, jr., administrator, Botanic Garden. Received July 10, 1923.

"Seeds of an edible chestnut collected in western Java." (*Carl Hartley*.)

An evergreen tree 50 to 60 feet high, with narrow thin leaves 5 to 7 inches long and very dense clusters of spiny burs; each bur is about 2 inches wide and contains normally a single nut an inch in diameter. (Adapted from *Hooker, Flora of British India*, vol. 5, p. 621, and from *Annals of the Royal Botanic Garden*, vol. 2, p. 479.)

For previous introduction, see S. P. I. No. 56461

57733. DIOSPYROS KAKI L. f.
Diospyraceæ. Kaki.

From Ichang, China. Seeds presented by Rev. A. S. Cooper, American Church Mission. Received July 6, 1923.

"Collected on the mountains back of Patung Hupeh, China, at an altitude of 6,000 to 8,000 feet." (*Cooper*.)

Introduced for use as stocks for cultivated varieties of the kaki.

57734 to 57741. PHASEOLUS spp.
Fabaceæ.

From Balboa, Canal Zone. Seeds presented by R. D. Rands, Bureau of Plant Industry. Received July 6, 1923.

Introduced for department pathologists studying bean diseases.

57734. *PHASEOLUS ACUTIFOLIUS* *LATIFOLIUS* G.
F. Freeman. Tepary bean.

Chimbalito.

57735. *PHASEOLUS LUNATUS* L. Lima bean.
Habitas del pais.

57736 to 57741. *PHASEOLUS VULGARIS* L.
Common bean.

57736. *Frijoles rosados*.

57737. *Porotos bayos*.

57738. *Porotos colorados*.

57739. *Porotos caballeros*.

57740. "*Triguitos*; from Chile." (*Rands*.)

57741. *Porotos bayos*.

57742 to 57748.

From Ibarra, Ecuador. Seeds presented by J. F. Tamayo. Received July 11, 1923. Quoted notes by Señor Tamayo, unless otherwise stated.

57742. *DATURA* sp. Solanaceæ.

"*Floripondio*. In general appearance this resembles the garden floripondio, but it fruits profusely, and the white flowers are somewhat smaller."

57743. *LUPINUS* sp. Fabaceæ. Lupine.

"*Wild altramuz*. From the Pinllar Ridge. I believe this is an annual and might be suitable as a cover crop in semiarid regions."

57744. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ. Tomato.

"The plant from which these seeds were taken produced two crops."

57745. *PSIDIUM* sp. Myrtaceæ.

"*Guayabilla*. A wild guava which grows in the hacienda La Victoria, near Ibarra. In the wild state it is a shrub 4 feet high, while under cultivation it becomes 10 feet or more in height. The leaves and flowers are like those of the cultivated guava. It may prove valuable as a stock."

57746. *SALVIA* sp. Menthaceæ. Sage.

"A wild salvia with sky-blue flowers a half inch in diameter, found on waste land and on the edges of cultivated fields. It is herbaceous, about a foot high, and roots at the nodes."

57747. *SOLANUM* sp. Solanaceæ.

"Seeds of a wild potato from La Rinconada."

"A wild solanum which grows abundantly in certain places, preferring the protection of shrubby vegetation along ravines on the paramo. The plant resembles that of the cultivated potato; the tubers, however, are rarely more than an inch long by half an inch in thickness, and they are whitish brown with white flesh. They are attacked by late-blight, as are cultivated potatoes in the same region." (*Wilson Popenoe*.)

57748. *TRIFOLIUM* sp. Fabaceæ. Clover.

"A wild clover with white flowers, collected at La Rinconada."

57749. *DIOSCOREA ALATA* L. Dioscoreaceæ. Greater yam.

From Barbados, British West Indies. Tubers presented by John R. Bovell, Director of Agriculture. Received July 5, 1923.

"*Barbados Red*. There are two varieties of this red yam, one darker than the other, and I am forwarding tubers of the darker one." (*Bovell*.)

"These tubers of the darker strain of the *Barbados Red* yam weigh from 1¼ to 2 pounds each and are club shaped. The inner skin is deep purple, and except near the tip of the tuber, where it is pale purple, the flesh is moderately deep purple with scattered fibers of deeper color. This yam cooks mealy and rather dry and is of very good flavor. The color fades somewhat during cooking, leaving the yam an attractive light reddish purple." (*R. A. Young*.)

57750 to 57756.

From Egypt. Spikes collected by H. V. Harlan, Bureau of Plant Industry. Received July 12, 1923. Quoted notes by Doctor Harlan.

57750 to 57755. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceæ. Six-rowed barley.

"From the Province of Sharqiyh."

57750. "(No. 102. Shershema, Markaz of Hehia. May 14, 1923.) Spikes from a field of the delta type of barley."

57750 to 57756—Continued.

57751. "(No. 103. Markaz of Kop Lahr. May 14, 1923.) From the field of Ahmid Selim."

57752. "(No. 104. Markaz of Kop Lahr. May 14, 1923.) Spikes selected from two fields."

57753. "(No. 105. Markaz of Kop Lahr. May 14, 1923.) From the estate of Baron Menase."

57754. "(No. 106. Markaz of Kop Lahr. May 14, 1923.) From a field."

57755. "(No. 107. Markaz of Kop Lahr. May 14, 1923.) From a field."

57756. *TRITICUM DICOCCUM* Schrank. Poaceæ. Emmer.

"(No. 108. Gizeh. May 12, 1923.) Spikes of an Abyssinian emmer sent at this time because a severe storm has since damaged the plats and better spikes may not be obtainable."

57757 to 57769. *SACCHARUM OFFICINARUM* L. Poaceæ. Sugar cane.

From Pasoeroean, Java. Seeds presented by Dr. J. Kuyper, Assistant Director, Sugar Experiment Station. Received July 17, 1923. Quoted notes by Doctor Kuyper.

"These are all self-crosses."

57757. "1499 P. O. J. Of Chunnee blood."

57758. 1407 P. O. J.

57759. "*Katha*. A British Indian cane resembling Chunnee."

57760 to 57769. "All of Kassoer blood."

57760. No. 2721. 57765. No. K 44.

57761. No. 2727. 57766. No. K 89.

57762. No. 2734. 57767. No. K 262.

57763. No. 1117. 57768. No. K 1349.

57764. No. 1177.

57769. "*Kassoer*. Kassoer blood is resistant to the yellow-stripe disease."

57770. *ILEX PARAGUARIENSIS* St. Hil. Aquifoliaceæ. Yerba maté.

From Buenos Aires, Argentina. Seeds presented by Edward F. Feely, commercial attaché, through B. R. Hart, Bureau of Foreign and Domestic Commerce. Received July 19, 1923.

Seeds of yerba maté introduced for the purpose of establishing this interesting beverage plant in the United States.

For previous introduction, see S. P. I. No. 55621.

57771. *ARTOCARPUS COMMUNIS* Forst. Moraceæ. Breadfruit.

From Summit, Canal Zone. Plants presented by Holger Johansen, agronomist, Introduction Garden. Received July 30, 1923.

"The jack fruit (*Artocarpus integra*) has been grown successfully in southern Florida. The closely allied breadfruit, however, has not yet received an adequate trial in that State, and the department is now attempting to introduce seedless forms, which are the only ones worthy of extensive cultivation. These are propagated by cuttings which, as P. J. Wester, of the Philippine Bureau of Science, has shown, can readily be rooted in sand if made in the proper manner. While it is not anticipated that the breadfruit tree will ever become of economic importance in the continental United States, it is thought that it may prove an interesting addition to the list of tropical economic plants which can be grown in the gardens of southern Florida." (*Wilson Popenoe*.)

For previous introduction, see S. P. I. No. 57701.

57772 and 57773. COLOCASIA ESCULENTA (L.) Schott. Araceæ. Taro.

From Honolulu, Hawaii. Seedlings presented by Gerrit P. Wilder, Honolulu, through Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received July 20, 1923. Quoted notes by R. A. Young.

57772. Wilder seedling No. 351.

"A taro with light-green petioles; the lower part of the petiole is slightly shaded with greenish bronze, and the sinus wing is margined with pale pink."

57773. Wilder seedling No. 354.

"The petioles are plain light green. The plants tend to flower when very young; the inflorescences of the small plants are very small, the total length of the spathe being only about 2½ inches and that of the spadix 1½ inches."

57774 to 57780.

From Berlin, Germany. Seeds purchased from Dr. A. F. Merkel, Deutsche Landwirtschaftsgesellschaft. Received July 9, 1923. Quoted notes by Doctor Merkel.

57774. *LOTUS CORNICULATUS* L. Fabaceæ.

"From Hans Kofahl, agricultural adviser, Zernikow, near Glöwen."

Sent in response to a request for a variety free from hydrocyanic acid.

57775 to 57780. *TRIFOLIUM PRATENSE* L. Fabaceæ. **Red clover.**

Locally grown seed introduced for department forage-crop specialists.

57775. "From Holstein. This Province has an ocean climate, with ample rainfall."

57776. "The Rhine country, where this clover has been raised for many years, has mild winters and a heavy yearly precipitation. The soil conditions are favorable, sometimes stony, and sometimes diluvial loam."

57777. "This locality is in southern Germany, and the clover is grown on the extensive plains and slopes of the Wasgau and Odenwälder forests and the northern Black Forest. The precipitation is quite heavy."

57778. "Polish red clover, grown under an east-continental climate."

57779. "From Bohemia, where there is a rather dry east-continental climate with severe winters."

57780. "From Silesia, which has rather severe winters. The precipitation is medium and the soil conditions good, being mostly diluvial sandy loam with a loess subsoil. Red clover has been grown here for many years."

57781 to 57794. SACCHARUM OFFICINARUM L. Poaceæ. Sugar cane.

From Pasoeroean, Java. Cuttings presented by Dr. J. Kuyper, assistant director, Sugar Experiment Station. Received July 19, 1923. Quoted notes by E. W. Brandes.

57781. "*D. I. 52*. Equals cross between Charihon and Batjan."

57782. "*E. K. 28*. This variety produces nearly 90 per cent of the sugar cane in Java. It was developed by Edward Karthouse, a private grower."

57783. "*2221 P. O. J.* Cross between Black Cheribon and Kassoer."

57784. "*2222 P. O. J.* Cross between Black Cheribon and Kassoer."

57785. "*2345 P. O. J.* Cross between 100 P. O. J. and Kassoer."

57781 to 57794—Continued.

57786. "*2364 P. O. J.* Cross between 100 P. O. J. and Kassoer."

57787. "*2747 P. O. J.* Cross between Lahaina and 2628 P. O. J."

57788. "*2752 P. O. J.* Cross between 2364 P. O. J. and 1410 P. O. J."

57789. "*S. W. 3*. Cross between Cheribon and Batjan. This cane was developed at a private mill, the Sempal Wadak."

57790. "*Ardjoena*. This variety is also an old original cane, not a hybrid."

57791. "*Batjan*. This is an old standard variety of Java."

57792. "*Fidji*. This variety has been grown for many years in Java, according to the records, but probably was imported from Fiji."

57793. "*Gestreebt Preanger*. Similar to Louisiana Striped and possibly identical."

57794. "*Lahaina*. This variety is supposed to be the old Bourbon of the West Indies. It was formerly widely grown in Hawaii."

57795. PANCRACTIUM TORTUOSUM Herbert. Amaryllidaceæ.

From Aden, Arabia. Bulbs presented by Raymond Davis, American consul. Received July 19, 1923.

"The leaves remain green throughout most of the season even in the arid deserts around Aden, but the flowers appear only after one of the rare rainy periods, generally within four to seven days. The plants grow abundantly on cliffs and rocky wastes of Arabia and Egypt." (*Davis*.)

A relative of the well-known American spiderlily (*Hymenocallis*), with beautiful white flowers 3 to 6 inches long and a handsome toothed crown within the corolla, as in *Narcissus*. The long linear leaves are spirally twisted.

57796. PROTEA ARGENTEA L. (*Leucadendron argenteum* R. Br.). Proteaceæ.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by the chief conservator of forests, Forest Department. Received July 20, 1923.

Introduced for department specialists experimenting with acid-soil plants.

The *witteboom*, or *silver-leaf pine*, is a beautiful tree found native only in the immediate vicinity of Cape Town, Cape Province, where it grows up to 50 feet in height. The numerous white silky leaves, which are lanceolate and up to 7 inches long, are now an article of commerce, being used for curios, mats, bookmarks, etc.; when dry they take ink or paint and are then sold with texts or small scenes depicted on them. (Adapted from *Sim, Forests and Forest Flora of Cape Colony*, p. 294.)

For previous introduction, see S. P. I. No. 51623.

57797. GLADIOLUS PSITTACINUS Hook. Iridaceæ.

From Pretoria, Transvaal, Union of South Africa. Bulbs presented by E. Percy Phillips, Chief, Division of Botany. Received July 20, 1923.

A South African gladiolus with a large globose corn, a stem 3 feet or more in length, and usually four rigid, swordlike leaves 1 or 2 feet long. The many-flowered spike is very lax, reaching a foot or more in length. The upper segments of the flower are dark crimson, while the much smaller lower segments reflexed at the top are red and yellow mixed. (Adapted from *Thiselton-Dyer, Flora Capensis*, vol. 6, p. 158.)

57798. Gossypium sp. Malvaceæ.
Cotton.

From Ceiba, Honduras. Seeds presented by Alexander K. Sloan, American consul. Received June 16, 1922. Numbered July, 1923.

Seeds of a supposedly wild cotton from the Aguan Valley, near Trujillo, Honduras, introduced for department cotton specialists.

57799. ANNONA CHERIMOLA Mill.
Annonaceæ. Cherimoya.

From Brisbane, Queensland. Trees presented by A. H. Benson, director of fruit culture. Received July 27, 1923.

"*Pink's Mammoth*. Our best variety, raised from seed imported from Central America many years ago. It is of superb quality and large size, frequently weighing 5 or 6 pounds or more, and contains only five or six seeds, most of which are infertile. It is the finest of the family which I have seen in any part of the world." (Benson.)

57800. COLOCASIA ANTIQUORUM Schott.
Araceæ. Taro.

From Aitutaki, Cook Islands. Tubers presented by W. T. Hewett. Received July 30, 1923.

"*Niue*. A taro with red inner skin and white flesh and of excellent quality when cooked. It is slightly acid when raw." (R. A. Young.)

57801. ELAEIS MELANOCOCCA Gaertn.
Phenicææ. Palm.

From Balboa Heights, Canal Zone. Seeds presented by Holger Johansen, agronomist, Plant Introduction Garden, Summit. Received July 31, 1923.

A large spreading low palm which grows in low moist land. It is closely related to the African oil palm (*Elaeis guineensis*), and a clear oil is extracted from the kernels in small quantities by the natives, who prize it highly for cooking.

For previous introduction, see S. P. I. No. 50480.

57802. PHASEOLUS LUNATUS L. Fabaceæ.
Lima bean.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received July 31, 1923.

"A Lima bean perennial in Cuba." (Towns.)

Introduced for department horticulturists.

57803 to 57810. PHASEOLUS spp. Fabaceæ.

From Port of Spain, Trinidad, British West Indies. Seeds presented by R. D. Rands, Bureau of Plant Industry. Received August 1, 1923. Quoted notes by Doctor Rands.

Locally grown varieties introduced for department specialists engaged in bean-disease investigations. Nos. 57803 to 57809 are Venezuelan varieties which were purchased in the market at Caracas.

57803 to 57805. PHASEOLUS LUNATUS L.
Lima bean.

57803. *Tapiramos blancos*.

57804. *Guaracaros blancos*.

57805. *Guaracoles coloradas*.

57806 to 57810. PHASEOLUS VULGARIS L.
Common bean.

57806. *Guaracaro ballo*.

57807. *Guaraotas guacamayas*.

57808. *Ponchas blancas*.

57809. *Ponchas coloradas*.

57810. "A Trinidad variety obtained here."

57811. ANNESLIA PORTORICENSIS (Willd.) Donn.-Smith (Calliandra portoricensis Benth.). Mimosaceæ.

From Rio Piedras, Porto Rico. Seeds presented by E. Murray Bruner, forester, Porto Rico Forest Service. Received July 7, 1923.

A very handsome white-flowered shrub or small tree, native to the West Indies, which is cultivated as an ornamental in Honolulu, Hawaii. The branches are slender and erect, and the leaves have 10 to 30 pairs of narrow leaflets. (Adapted from Rock, *Leguminous Plants of Hawaii*, p. 21.)

57812 to 57818.

From India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received July 23, 1923. Quoted notes by Doctor Harlan.

57812 and 57813. HORDEUM VULGARE PALLIDUM Seringe. Poaceæ. Six-rowed barley.

57812. "(No. 122. Delhi. June 4, 1923.) Purchased in the market."

57813. "(No. 127. Simla. June 7, 1923.) Barley of the new crop secured from a farmer in the river valley northeast of Simla at an altitude of about 5,700 feet."

57814 to 57818. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceæ. Common wheat.

57814. "(No. 123. Delhi. June 4, 1923.) Purchased in the market."

57815. "(No. 124. Delhi. June 4, 1923.) Purchased in the market."

57816. "(No. 125. Simla. June 7, 1923.) Local wheat purchased in the market."

57817. "(No. 126. Simla. June 7, 1923.) Local wheat of new crop purchased in the market."

57818. "(No. 128. Simla. June 7, 1923.) Wheat of new crop secured from a threshing floor in the river valley northeast of Simla at an altitude of about 5,700 feet."

57819. TALINUM TRIANGULARE (Jacq.) Willd. Portulacaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received July 31, 1923.

An erect, branching herbaceous plant, about 3 feet high, native to the West Indies and recently introduced from Java into the Philippine Islands. The flowers are pink and produced in great profusion. In the Philippines the fleshy, tender leaves are boiled like spinach and served with meat, for which purpose they are excellent. The plant is easily propagated by cuttings. (Adapted from the *Philippine Agricultural Review*, vol. 14, p. 365.)

57820. CARYOPHYLLUS MALACCENSIS (L.) Stokes (Eugenia malaccensis L.). Myrtaceæ. Ohia.

From Honolulu, Hawaii. Seeds presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received August 1, 1923.

"The fruit is much esteemed, and while in Panama I had the pleasure of tasting preserves made from it which seem to have a characteristic flavor of some merit. When in bloom, the branches of this tree are gorgeous, covered as they are with masses of large flowers an inch or so across, composed of hundreds of beautiful deep rose-pink or crimson stamens. The tree itself is a beautiful ornamental, and it would seem as though more work in the selection of this species should be attempted. The remarkable structure of the seeds suggests a high degree of polyembryony. When the seed germinates (as many of them were doing under the tree) the whole large brilliant-green mass seemed to break up into fragments." (David Fairchild.)

For previous introduction, see S. P. I. No. 54530.

57821 to 57826.

From India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received July 31, 1923.

57821 and 57822. HORDEUM VULGARE PALLIDUM
Seringe. Poaceæ. **Six-rowed barley.**

57821. "(No. 129. Solan. June 10, 1923.) This barley was grown near Rauari under irrigation. It is the best brewing barley of India. There are few broken kernels and less than 2 per cent of 'still' kernels. Secured from the Solan brewery."

57822. "(No. 136. Garhi Kashmiria. June 12, 1923.) Seed of the new crop."

57823. LENTILLA LENS (L.) W. F. Wight (*Lens esculenta* Moench.). Fabaceæ. **Lentil.**

"(No. 133. Solan. June 10, 1923.) *Masoor Dhol*. Secured from H. E. J. Peake, of the Solan brewery. Grown in the hills at an altitude of 4,800 feet."

57824. PHASEOLUS MUNGO L. Fabaceæ. **Urd.**

"(No. 132. Solan. June 10, 1923.) *Oorad Dhol*. Secured from H. E. J. Peake, of the Solan brewery. Grown in the hills at an altitude of 4,800 feet."

57825 and 57826. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceæ. **Common wheat.**

57825. "(No. 134. Garhi Kashmiria. June 12, 1923.) New crop just threshed."

57826. "(No. 135. Garhi Kashmiria. June 12, 1923.) A second grade of wheat from the new crop."

57827. LYCOPERSICON ESCULENTUM
Mill. Solanaceæ. **Tomato.**

From Tucuman, Argentina. Seeds presented by Dr. W. E. Cross, Estación Experimental Agrícola. Received August 6, 1923.

"Seeds from blight-resistant plants of Parana grown at the Tucuman Experiment Station in 1921. This variety is the most extensively planted in Tucuman, especially in the Lules region. It is generally regarded as the most blight-resistant variety, but my own experience has led me to the conclusion that it is not completely resistant, although there are always a number of plants which do not suffer at all when the rest of the plants have died from the disease." (*E. F. Schultz*.)

For previous introduction, see S. P. I. No. 55591.

57828. PSIDIUM GUAJAVA L. Myrtaceæ. **Guava.**

From Dominica, British West Indies. Seeds presented by A. Keys, Botanic Gardens. Received August 13, 1923.

"*Large Indian guava*. This is a round variety, flattened at each end, and about 3½ inches in greatest diameter. The fruit, which is said to be of very good quality, weighs about 12 ounces. The variety was introduced into Dominica from India several years ago." (*Keys*.)

57829. IPOMOEA PAPILO Hall. f. Convolvulaceæ. **Morning-glory.**

From Italian Somaliland, Africa. Seeds presented by Dr. G. Soassellati Sforzolini, Direttore Agrario e Zootechnico, Villaggio Duca Abruzzi. Received August 6, 1923.

A long trailing vine, with smooth, green, deeply toothed leaves half an inch long and rose-red flowers over an inch long and wide. The vine is native to several parts of South Africa. (Adapted from *Thiselton-Dyer, Flora Capensis*, vol. 4, sect. 2, p. 167.)

57830 and 57831. CROTALARIA spp.
Fabaceæ.

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, General Experiment Station, Department of Agriculture. Received August 13, 1923. Quoted notes by Doctor Cramer.

57830. CROTALARIA ANAGYROIDES H. B. K.

"This species is now given preference here in Java as green manure; it produces more vegetation and does not layer so easily. It is especially satisfactory in higher altitudes and is in such great demand for the tea plantations in the higher mountains that we have to limit our seed distributions to small quantities."

57831. CROTALARIA USARAMOENSIS Baker f.

"Although I introduced this from East Africa as a fiber plant, it does not seem to be very promising as such. It has proved very successful, however, as a green manure, when grown in alternation with corn, producing large quantities of vegetation rich in nitrogen. In the cinchona plantations it is very satisfactory, as it endures partial shade and forms a dense low growth which keeps the edges of the terraces together."

57832. DIOSCOREA ALATA L. Dioscoreaceæ. **Greater yam.**

From Summit, Canal Zone. Tuber presented by Holger Johansen, agronomist, Introduction Garden. Received August 13, 1923.

"This yam is white fleshed and remains perfectly white when cooked. It is slightly fibrous but otherwise is of very good quality. The tuber received was somewhat elongated and of good shape for handling; it weighed about 5 pounds." (*R. A. Young*.)

57833 to 57844.

From Poona, India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received August 15, 1923. Quoted notes by Doctor Harlan.

57833. CYAMOPSIS TETRAGONOLOBA (L.) Taub.
(*C. psoraloides* DC.). Fabaceæ. **Guar.**

"(No. 120. May 29, 1923.) Secured from the Poona Agricultural College. Seeded in June and harvested in October."

57834. DOLICHOS LABLAB L. Fabaceæ. **Hyacinth bean**

"(No. 121. May 29, 1923.) Secured from the Poona Agricultural College. Seeded in September and harvested in February."

57835 to 57842. HOLCUS SORGHUM L. (Sorghum vulgare Pers.). Poaceæ. **Sorghum.**

"(Nos. 109, 111 to 117. May 29, 1923.) Selected from heads in the Poona collection of over 100 varieties. Especial attention was paid to the time of seeding and ripening. Most varieties here ripen in the winter months, but several of those sent ripen from September to November and therefore may find the proper length of day in the States."

57835. "(No. 109.) An agricultural variety known as *Aispuri*. Possibly the *Elichpuri* of Bulletin 30, page 92, by Gamina, 1908. It is grown in the district of Khandesh in rotation with cotton on black cotton land of low rainfall. Sown in June and harvested in the latter part of November. Loose panicle 10 inches long."

57836. "(No. 111. District of Khandesh.) *Garya*. Sown the latter part of June and harvested the latter part of October and the first of November. Compact panicle 7 inches long."

57833 to 57844—Continued.

57837. "(No. 112. Dharwar.) *Nandyal*. Seeded the latter part of July and harvested the latter part of December. Panicle slender, 9 inches long."

57838. "(No. 113.) *Muddi Nandyal*. The season the same as for No. 112 [S. P. I. No. 57837]. Panicle rather compact and 5 inches in length."

57839. "(No. 114. District of Sholapuri.) *Sholapuri*. A tall-growing variety. Panicle 7½ inches long. Seeded the middle of June and harvested in December."

57840. "(No. 115. Dekkan.) *Nilwa*. Sown in June and harvested in September. Panicle 5 inches and medium dense. This is a very early variety, but the grain is not so good. It is also used for fodder, for which purpose it is seeded thick."

57841. "(No. 116. Dekkan.) *Utavali*. Similar to No. 115 [S. P. I. No. 57840], but sown later (end of July). It ripens in 9 or 10 weeks. This is also largely used for fodder."

57842. "(No. 117. District of Gujrot.) *Sundhia*. This variety, which is the best for fodder, has a loose panicle and a fine stalk. It matures in 60 days and is seeded either early or late."

57843. *PHASEOLUS ACONITIFOLIUS* Jacq. Fabaceæ. Moth bean.

"(No. 119. May 29, 1923.) A small-leaved fine-stalked variety from Dekkan secured from the Poona Agricultural College. Several crops of forage are cut. It is seeded in June, and the cutting is not finished until January."

57844. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.

"(No. 118. Dekkan. May 29, 1923.) Received from the Poona Agricultural College."

57845 to 57848. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceæ. Sweet potato.

From Buitenzorg, Java. Tubers presented by Dr. P. J. S. Cramer, director, General Experiment Station, Department of Agriculture. Received August 13, 1923.

"These are considered the best sweetpotato varieties at our plant-breeding station." (Cramer.)

57845. No. 2. *Boled*.

57846. No. 1. *Boleurak*.

57847. No. 4. *Menes moeder*.

57848. No. 3. *Menes 19*.

57849. *RUBUS MACRAEI* A. Gray. Rosaceæ. Akala.

From Honolulu, Hawaii. Seeds presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received August 17, 1923.

"The Hawaiian giant raspberry, occurring at an altitude of about 6,000 feet. It is a straight bush with the older branches thornless. The fruits, borne at the drooping tips of the branches, are very numerous, about 2 inches in diameter and exceedingly juicy; the seeds are comparatively small. The flesh is slightly bitter but otherwise delicious. This berry is of great promise, as it grows in a region where frost is not uncommon in the winter months. It may succeed in some sections of California. (J. F. Rock.)

For previous introduction, see S. P. I. No. 57226.

57850. *PRUNUS* sp. Amygdalaceæ. Cherry.

From Szemao, Yunnan, China. Seeds presented by J. D. Fullerton. Received August 15, 1923.

Seeds of a wild cherry from southwestern China, introduced for testing as a stock for cultivated varieties.

57851 to 57853. *PLUMERIA* spp. Apocynaceæ.

From Honolulu, Hawaii. Seeds presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received August 17, 1923. Quoted notes by Mr. Pope unless otherwise stated.

"Few tropical shrubs are more highly esteemed than the *Plumerias*. Though they are not particularly graceful in habit, the beauty and fragrance of their star-shaped flowers make them worthy of cultivation in every tropical garden. They succeed in southern Florida, where several species are already grown, though not so extensively as they deserve. From the white flowers of *Plumeria alba* the rare and costly frangipani perfume is distilled." (Wilson Popenoe.)

57851. *PLUMERIA* sp.

"Seeds of a pink *Plumeria* from slender pods."

57852. *PLUMERIA* sp.

"Seeds of a pink *Plumeria* from broad spreading pods."

57853. *PLUMERIA* sp.

"Seeds of a pink *Plumeria* from pods attached at an angle."

57854. *CITRUS NOBILIS PAPILLARIS* (Blanco) Wester. Rutaceæ.

From Manila, Philippine Islands. Budwood presented by P. J. Wester, Bureau of Agriculture. Received August 11, 1923.

"A spreading, small tree, attaining a height of 6 meters or more, in habit similar to the pomelo; spines small or wanting; leaves 10 to 14 centimeters long, 5 to 6 centimeters broad, ovate to elliptical-oblong, crenate, dark green and shining above, crinkly, base broadly acute, apex narrowly acute to almost acuminate and caudate; petioles 17 to 20 millimeters long with narrow-winged margin; flowers not seen; fruit large, from 6 to 10 centimeters in diameter, 170 to 580 grams in weight, somewhat compressed at basal half, usually ending in a more or less conspicuous nipple, which, however, is sometimes wanting; apex flattened or even depressed; surface smooth, pale greenish turning to orange-yellow; skin medium thin; locules 10 to 11, separable from each other, and the skin like the mandarin; pulp yellowish, subacid, very juicy, and of good flavor with marked 'quinine' taste; juice cells large; seeds very few, rarely more than seven.

"The tizon is extremely rare and only a few trees are found in cultivation, confined to the citrus district of Batangas, Luzon. The trees are said to be quite prolific, and the fruit matures from September to December. This fruit, on account of its scarcity, is of no commercial importance. However, it would be an acceptable dessert or breakfast fruit, being a little more acid than the orange. It is said to be an introduction from Spain. The tizon is without doubt the *Citrus papillaris* described by Blanco in 'Flora Filipinas.'

"The tizon is believed to be a natural hybrid between the mandarin and the pomelo. It has inherited the loose-skinned character, large juice cells, partial absence of spines, and leaf character of the first-named species to which it is (without the writer having had the opportunity to examine the flowers) unquestionably more closely related than to any other species in the genus." (Wester.)

57855. TRIFOLIUM MEDIUM Huds. Fabaceæ. Clover.

From Waverley, New Zealand. Seeds presented by the manager, Moumahaki Experimental Farm. Received August 17, 1923.

Seeds of a type of clover which is said to spread by means of underground stolons. Introduced for department clover specialists.

57856. QUERCUS DISCARPA Hance. Fagaceæ.

From Buitenzorg, Java. Seeds presented by the director, Botanic Garden. Received August 3, 1923.

A lofty tree, 100 to 130 feet in height, with leathery narrowly oval leaves about 5 inches in length and small spiny hemispherical or roundish acorns about half an inch long. The tree is native to the Federated Malay States. (Adapted from *Annals of the Royal Botanic Garden, Calcutta*, vol. 2, p. 76.)

57857 to 57860.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received August 22, 1923.

57857. BERBERIS BEALEI Fortune. Berberidaceæ. Barberry.

For previous introduction and description, see S. P. I. No. 57704.

57858. GLADIOLUS SEGETUM Ker. Iridaceæ.

"One of the most beautiful wild flowers around here; it might be very valuable for hybridizing." (*Proschowsky*.)

A European gladiolus of free habit, fond of warm dry soil and a sunny situation, with rather small rose-purple flowers. It is an admirable species for mixed borders. (Adapted from *Robinson, English Flower Garden*, p. 577.)

For previous introduction, see S. P. I. No. 56629.

57859. MUSA PARADISIACA SEMINIFERA (Lour.) Baker. Musaceæ. Plantain.

A wild seed-bearing form of the plantain, with small oblong greenish fruits full of seeds. These fruits are about a third of the size of the common banana and are of pleasant taste, although encumbered by numerous seeds. The plant is quite ornamental and harder than the common banana, so that it may be possible, by selection or hybridization, to extend the range of banana culture into cooler regions. (Adapted from *Bailey, Standard Cyclopaedia of Horticulture*, vol. 4, p. 2079, and letter of Doctor Proschowsky, June 30, 1917.)

For previous introduction, see S. P. I. No. 45007

57860. VERONICA HULKEANA F. Muell. Scrophulariaceæ.

One of the handsomest and most graceful of all the New Zealand veronicas. It is easily distinguished from others of the group by its shining dark-green, coarsely toothed leaves about 2 inches long and its long sprays of lilac-colored flowers which are in panicles sometimes a foot in length.

57861 to 57867.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Numbered July, 1923. Quoted notes by Mr. Borodin.

From the Ekaterinoslav Agricultural Experiment Station; introduced for department agrostologists.

57861 to 57866. BROMUS spp. Poaceæ. Bromegrass.

57861. BROMUS HORDEACEUS L. Soft chess.

"No. 412. 1915 crop. Originally from Khar-kof."

57861 to 57867—Continued.

57862 to 57865. BROMUS INERMIS Leyss.

57862. "1918 crop."

57863. "No. 190. 1916 crop."

57864. "No. 193. 1916 crop."

57865. "No. 814. 1918 crop. Originally from Amur, Siberia."

57866. BROMUS STERILIS L.

"No. 444. 1917 crop. Originally from Turkestan."

57867. ECHINOCHLOA CRUSGALLI (L.) Beauv. Poaceæ. Barnyard millet.

"No. 214. 1916 crop. Originally from Bakhmut."

57868 to 57881. ORYZA SATIVA L. Poaceæ. Rice.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received August 21, 1923. Quoted notes by S. Youngberg, acting director, Bureau of Agriculture.

"The following were grown at the Lamao Experiment Station, Lamao, Bataan."

57868. "(No. 2.) *Bincol I*. Tested eight years under upland conditions; matures usually in 140 days. Average yield per hectare 1,662 kilograms (approximately 1,480 pounds per acre)."

57869. "(No. 5.) *Calonod*. Tested seven years under upland conditions; matures usually in 143 days. Average yield per hectare 1,835 kilograms (approximately 1,635 pounds per acre)."

57870. "(No. 6.) *Pileng Baybay*. Tested one year under upland conditions; matures usually in 139 days. Average yield per hectare 1,780 kilograms (approximately 1,560 pounds per acre)."

57871. "(No. 14.) *Saguboy*. Tested one year under upland conditions; matures usually in 129 days. Average yield per hectare 1,000 kilograms (approximately 890 pounds per acre)."

57872. "(No. 11.) *Bonguet*. Tested six years under upland conditions; matures usually in 127 days. Average yield per hectare 2,062 kilograms (approximately 1,840 pounds per acre)."

57873. "(No. 10.) *Catalong*. Tested six years under upland conditions; matures usually in 141 days. Average yield per hectare 2,176 kilograms (approximately 1,940 pounds per acre)."

57874. "(No. 1.) *Inantipolo II*. Tested six years under upland conditions; matures usually in 137 days. Average yield per hectare 2,184 kilograms (approximately 1,950 pounds per acre)."

57875. "(No. 3.) *Kinastila IV*. Tested five years under upland conditions; matures usually in 129 days. Average yield per hectare 1,939 kilograms (approximately 1,730 pounds per acre)."

57876. "(No. 12.) *Hinirang*. Tested six years under upland conditions; matures usually in 130 days. Average yield per hectare 3,496 kilograms (approximately 3,100 pounds per acre)."

57877. "(No. 4.) *Calibug*. Tested four years under upland conditions; matures usually in 133 days. Average yield per hectare 2,010 kilograms (approximately 1,800 pounds per acre)."

57878. "(No. 8.) *Casulig*. Tested three years under upland conditions; matures usually in 142 days. Average yield per hectare 1,714 kilograms (approximately 1,500 pounds per acre)."

57879. "(No. 13.) *Kinandang Kumpol*. Tested three years under upland conditions; matures usually in 132 days. Average yield per hectare 1,853 kilograms (approximately 1,650 pounds per acre)."

57868 to 57881—Continued.

57880. "(No. 7.) *Pinling*. Tested three years under upland conditions; matures usually in 132 days. Average yield per hectare 1,316 kilograms (approximately 1,170 pounds per acre)."

57881. "(No. 9.) *Caponguit*."

57882 to 57890.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received August 21, 1923.

57882. *ACROCARPUS FRAXINIFOLIUS* Wight and Arn. *Cæsalpiniaceæ*.

A lofty tree, native to the eastern Himalayas at altitudes of 4,000 feet and less, used by the natives for making tea boxes and also for planking. The sapwood is white and the heartwood light red and moderately hard. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 1, p. 102.)

57883. *AMERIMNON PINNATUM* (Lour.) Kuntze (*Dalbergia tamarindifolia* Roxb.). *Fabaceæ*.

A climbing plant with leaves resembling those of the tamarind, found as high as 4,000 feet in the eastern Himalayas. The leaves are eaten by cattle. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 3, p. 16.)

57884. *BERBERIS NAPAULENSIS* (DC.) Spreng. *Berberidaceæ*. **Barberry.**

A shrub or small tree, common in eastern India at altitudes above 5,000 feet. The wood is bright yellow and hard, and because of its hardness and handsome color it might be useful for inlaying. It is used to a small extent by the natives of India in making a yellow dye. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 1, p. 446.)

For previous introduction, see S. P. I. No. 55672.

57885. *BUDDLEIA ASIATICA* Lour. *Loganiaceæ*.

A very graceful evergreen shrub or small tree, common throughout India and the Malay Peninsula, with narrow leaves up to 8 inches in length. For three months in India the long slender racemes of white sweet-scented flowers fill the air with delightful fragrance. (Adapted from *Curtis's Botanical Magazine*, pl. 6323.)

For previous introduction, see S. P. I. No. 48264.

57886. *CHONEMORPHA MACROPHYLLA* (Roxb.) Don. *Apocynaceæ*.

A large climber, native to Bengal and Burma, with milky sap from which a kind of caoutchouc is obtained. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 2, p. 271.)

57887. *EDGEWORTHIA GARDNERI* (Wall.) Meisn. *Thymelæaceæ*.

A handsome shrub whose branches are covered with dense clusters of yellow sweet-scented flowers before the leaves appear. The strong, tough fiber which is obtained from the long straight twigs seems very promising as paper-making material. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 3, p. 202.)

For previous introduction, see S. P. I. No. 39642.

57888. *LEUCOSCEPTRUM CANUM* J. E. Smith. *Menthaceæ*.

A stout-branched densely hairy tree, commonly about 30 feet in height, with large narrowly ovate leaves, silvery hairy beneath and at times a foot long. The small white or pinkish flowers are in spikes. (Adapted from *Hooker, Flora of British India*, vol. 4, p. 700.)

For previous introduction, see S. P. I. No. 39646.

57889. *MACHILUS GAMBLEI* King. *Lauraceæ*.

An evergreen tree, native to northern Bengal India, with thin leathery leaves, pale beneath

57882 to 57890—Continued.

silky flower clusters, and small globular fruits. (Adapted from *Hooker, Flora of British India*, vol. 5, p. 138.)

57890. *TETRASTIGMA BRACTEOLATUM* (Wall.) Planch. (*Vitis bracteolata* Wall.). *Vitaceæ*.

A slender-branched shrub which has the habit of producing long runners. The greenish flowers are very small, and the round black fruits are the size of peas. Native to Bhutan and Assam, India. (Adapted from *Hooker, Flora of British India*, vol. 1, p. 654.)

For previous introduction, see S. P. I. No. 47811.

57891. (Undetermined.)

From Bluefields, Nicaragua. Seeds presented by Y. R. Heath, Moravian Mission. Received August 31, 1923.

"*Ihiri*. The unripe fruits of this plant, in which no seeds have formed, may be boiled and eaten; they resemble the Irish potato in taste. But the fully formed seeds, such as I am sending, are better. When raw they taste somewhat peppery. They are boiled with ashes, after which the skin is easily rubbed off, and then they are reboiled in ordinary water. The *ihiri* usually grows in swamps, although sometimes on dry land, but it prefers a rather swampy location. According to the Indians the root is hard and woody." (Heath.)

57892 to 57911.

From Kashmir, India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received August 17, 1923. Quoted notes by Doctor Harlan.

57892 to 57898. *HORDEUM VULGARE PALLIDUM* Seringe. *Poaceæ*. **Six-rowed barley.**

57892. "(No. 128. June 13, 1923.) A winter barley collected in a field near Brahmoola. Altitude about 5,300 feet."

57893. "(No. 141. June 14, 1923.) Head selections of winter barley from fields in Sonawar. Altitude about 5,400 feet."

57894. "(No. 151. Garden of Lalla Rukh, Manarbal, Kashmir. June 15, 1923.) Barley selected in a plat on one of the terraces beside the lake."

57895. "(No. 153. June 15, 1923.) Head selections from fields about Shadipur."

57896. "(No. 154. Shadipur. June 15, 1923.) Head selections from the field from which the rye of No. 152 [S. P. I. No. 57900] was secured."

57897. "(No. 158. June 17, 1923.) Head selections from fields about Ganderbal."

57898. "(No. 164a. Ranbir Bagh vineyard. June 19, 1923.)"

57899. *MEDICAGO MINIMA* (L.) Grufberg. *Fabaceæ*.

"(No. 157. Ganderbal. June 17, 1923.) Found growing plentifully on a dry mountain side."

57900. *SECALE CEREALE* L. *Poaceæ*. **Rye.**

"(No. 152. Shadipur. June 15, 1923.) Spikes of rye from a field of barley. These are from the only rye plants I have seen in Kashmir. They were widely scattered and contain few seeds as a consequence. Apparently rye is not grown here."

57901 to 57909. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). *Poaceæ*. **Common wheat.**

57901. "(No. 137. June 13, 1923.) This sample contains five or more types of wheat from a field near Uppli. Altitude about 5,000 feet."

57902. "(No. 139. June 14, 1923.) Head selections with white glumes from fields in Sonawar."

57892 to 57911—Continued.

57903. "(No. 140. June 14, 1923.) Head selections with red glumes from fields in Sonawar."
57904. "(No. 143. June 15, 1923.) Head selections made in fields at Sumbal."
57905. "(No. 155. June 17, 1923.) Head selections from fields near Ganderbal."
57906. "(No. 156. June 17, 1923.) Head selections in fields about Ganderbal."
57907. "(No. 163. Ranbir Bagh. June 19, 1923.) Head selections made from wheat grown between the rows of grapes."
57908. "(No. 164b. Ranbir Bagh vineyard. June 19, 1923.) Awnless white wheat."
57909. "(No. 165. Ranbir Bagh vineyard. June 19, 1923.) Selections of an awned red-chaffed wheat."
- 57910 and 57911. *TRITICUM DURUM* Desf. Poaceæ.
Durum wheat.
57910. "(No. 144. June 15, 1923.) Head selections made in a field near Sumbal."
57911. "(No. 166. Ranbir Bagh vineyard. June 19, 1923.) Selections of durum wheat from the same vineyard as No. 165 [S. P. I. No. 57909]."

57912 to 57929.

From Avondale, Auckland, New Zealand. Plants presented by H. R. Wright. Received August 13, 1923. Quoted notes by Mr. Wright.

57912 to 57918. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceæ. Peach.

57912. "*Bennett's Perfection*. A very late yellow freestone variety."

57913. "*Early Gem*. A very early variety with a splendid flavor; raised from the same parent as *Sunrise* [S. P. I. No. 57916]."

57914. "*Golden Prolific*. A yellow freestone variety of excellent flavor. Season medium."

57915. "*Lord Kitchen*. A late yellow freestone variety of fine flavor."

57916. "*Sunrise*. A very early variety of splendid flavor. The tree is sturdy and a good cropper."

For previous introduction, see S. P. I. No. 55740.

57917. "*Watt's Early*. A seedling from *Flat China*, claimed by C. E. Vessey, of Australia, to be the earliest of all peach varieties."

For previous introduction, see S. P. I. No. 55741.

57918. "*White Cling*. A white clingstone variety, with very juicy fruits of excellent flavor."

For previous introduction, see S. P. I. No. 55742.

57919 to 57928. *PRUNUS* spp. Amygdalaceæ.

57919 to 57921. *PRUNUS CERASIFERA* Ehrh.
Cherry plum.

57919. "*Anderson's Early*. A glorified cherry plum about twice the size of the ordinary type. It is probably a cross between the cherry plum and the Japanese cherry."

57920 and 57921. "*Palmer's Early*. A yellow variety which we believe to be the earliest plum known. Because of its extreme earliness this plum should have great commercial possibilities."

57922. *PRUNUS DOMESTICA* L. Plum.

"*Jenkin's Seedling*. A European variety, very early, which bears large crops of fine-flavored fruits."

57912 to 57929—Continued.

57923. *PRUNUS SALICINA* Lindl.
Japanese plum.

"*Early Blood*. The earliest blood plum we have raised; it ripens before the cherry plum. The fruit is of good flavor but too soft for long shipment."

57924 to 57926. *PRUNUS SALICINA* × *CERASIFERA*.
Hybrid plum.

57924. "*Fuller's Seedling*. A cherry plum and Satsuma cross. A red-fleshed cherry plum, splendid for cooking and for jam. Propagated easily from cuttings."

57925. "*Ford's Early*. A cross between the cherry plum and Japanese plum. A heavy cropper, ripening early. The flavor strongly suggests the Japanese plum."

For previous introduction, see S. P. I. No. 55716.

57926. "*Norris Early*. A cross between the cherry plum and Japanese plum. The crop is good and the season early."

57927. *PYRUS COMMUNIS* L. Malaceæ. Pear.

"*Ruby*. A *Bon Chrétien* seedling raised in Victoria. The tree is a good bearer, resembling *Bon Chrétien* in growth, and the ripening season in Australia is the latter end of March. The fruit is medium to large and of splendid quality."

57928. *MALUS PRUNIFOLIA* (Willd.) Borkh.
Malaceæ. Apple.

Introduced for testing as a stock for cultivated apple varieties.

57929. *VITIS LABRUSCA* × *VINIFERA*. Vitaceæ.
Grape.

"*Albany Surprise*. A large-fruited sport of *Isabella*."

57930. *EPHEDRA ALTISSIMA* Desf.
Gnetaceæ.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received September 4, 1923.

"This is a strikingly ornamental climber, attractive at all times, but especially so when covered with its small red fruits." (*Proschowsky*.)

57931 to 57936.

From Montevideo, Uruguay. Seeds presented by the Director, Dirección General de Paseos Públicos. Received September 4, 1923.

57931. *CELTIS SELLOVIANA* Miquel. Ulmaceæ.

A much-branched spiny shrub, native to southern Brazil, with narrow, membranous, light-green, sharp-pointed leaves less than an inch long and inconspicuous flowers. (Adapted from *Martius, Flora Brasiliensis*, vol. 4, pt. 1, p. 179.)

57932. *EUGENIA GLAUDESCENS* Cambess. Myrtaceæ.

A large shrub, native to southern Brazil, with rather short, very narrow leaves up to 2½ inches in length and small white flowers borne singly in the axils of the leaves. (Adapted from *St. Hilaire, Flora Brasiliæ Meridionalis*, vol. 2, p. 368.)

For previous introduction, see S. P. I. No. 50392.

57933. *MANIHOT TWEEDIEANA* Muell. Arg. Euphorbiaceæ.

A wild Brazilian species from which the Indians are said to obtain edible varieties by cultivating the plants for a few years.

For previous introduction, see S. P. I. No. 48678.

57931 to 57936.—Continued.

57934. POECILANTHE PARVIFLORA Benth. Fabaceæ.

The *lapachillo*, as it is called in its native home on the Uruguay River, is a tree of great beauty, with its finely divided leaves and small but dense clusters of pink flowers. The heartwood is dark brown, very hard, heavy, and durable. (Adapted from *Journal of the Linnean Society*, vol. 4, suppl., p. 80, and Lillo, *Contribución al Conocimiento de los Árboles de la Argentina*, p. 107.)

57935. POMADERIS APETALA Labill. Rhamnaceæ.

A tree occasionally 60 feet in height, but usually smaller; native to southeastern Australia. The foliage is eaten readily by stock, often in preference to their customary feed. (Adapted from Mueller, *Select Extra-Tropical Plants*, p. 416.)

For previous introduction, see S. P. I. No. 48684.

57936. PROSOPIS NANDUBEY Lorentz. Mimosaceæ.

A tree of moderate height which is common in the mountainous regions of Uruguay. The numerous small yellowish flowers appear in the spring, and the sickle-shaped pods inclose a pulp of acid flavor. Because of its great durability the wood is prized for industrial purposes. (Adapted from Arechavaleta, *Flora Uruguaya*, vol. 1, p. 419.)

For previous introduction, see S. P. I. No. 48685.

57937 and 57938. MALUS SYLVESTRIS Mill. (*Pyrus malus* L.). Malaceæ.
Apple.

From Melbourne, Victoria, Australia. Presented by C. F. Cole, orchard supervisor, Department of Agriculture. Received September 6, 1923.

"King Cole. Fruit medium sized, roundish, inclined to oblate, pretty uniform in shape and size. Stem short, slender. Cavity rather deep, acute, symmetrical. Calyx small. A beautiful apple, highly colored and with a fine aroma. The apple gives evidence of being a good keeper and a good shipper. A specimen of this fruit forwarded by Mr. Cole in April reached us in good condition six weeks later although packed in an ordinary small wooden box. Other specimens forwarded July 13, 1923, reached us August 21 in excellent condition. If this variety proves resistant to woolly aphis, as claimed, it will prove a valuable acquisition to our apple collections." (B. T. Galloway.)

"This is a chance seedling supposed to be a cross between *Jonathan* and *Dutch Mignone*. The original seedling is still standing upon the property of R. G. Cole, orchardist, Lang Lang, Victoria, where the seed germinated. The producer first exhibited this apple at the fruit carnival held in the Exhibition Buildings, Melbourne, in 1912, and won the silver medal for a Victoria-raised seedling. The seedling was registered with the Royal Horticultural Society of Victoria under the name *R. G. Cole's Champion*. The writer submitted it under the name of *Cole's Champion* to the committee of the Australia Pomological Society, but owing likely to confusion the word *Champion* has been dropped and *Cole* accepted as the future name of this apple.

"The tree is very productive and a strong upright grower. The wood is dark, becoming reddish with age and lightly speckled with grey dots; the buds are moderately prominent; the foliage is medium sized and dark green. During the 1920 fruit season 22 cases of salable fruit were gathered from the original seedling tree. The flowers are not bold and are medium sized. The blossoming period is from the 12th to the 20th of October in Victoria.

"The apple, which has been tested under cool storage conditions, is a handsome dessert type of medium size, roundish conical, or tapering to the eye; the skin is thin and smooth; the ground clear pale yellow, splashed with lively red narrow broken stripes. The whole of the exposed surface is a light red, becoming deeper in color where exposed to the sun. The flesh is firm, white, crisp, juicy, sweet,

with a slightly perfumed aromatic flavor; the core is compact, the stalk thin and averaging three-quarters of an inch in length, inserted in a deep, rather fairly regular cavity. The calyx is small and closed; the segments pointed, slightly recurved, and set in a deep, rather narrow and corrugated basin. Its season in Victoria is April to September. It has been proved to be a very good keeper in cool storage and while stored it emits a strong aroma. It could be gathered in some districts about the middle of March. This variety is being largely planted, and it promises to become one of the best late apples introduced." (*Journal of the Department of Agriculture, Victoria*, p. 492.)

57937. Trees. Budded on *Northern Spy*.

57938. Budwood.

57939. TRIFOLIUM PRATENSE L. Fabaceæ.
Red clover.

From Ayr, Scotland. Seeds presented by McGill & Smith. Received September 8, 1923.

"A very hardy and permanent strain of wild red clover with which we are experimenting. It grows slightly the first year and by the third year produces quite a lot of foliage." (McGill.)

Introduced for department agronomists.

57940. NYPA FRUTICANS Wurmb. Phœnicaceæ.
Nipa palm.

From Lamac, Philippine Islands. Seeds presented by H. H. Boyle, of the Columbian Rope Co., Manila, through the Bureau of Agriculture, Manila. Received September 6, 1923.

From an economic standpoint this palm is one of the most important in the Philippines. It occurs along tidal streams throughout the archipelago and thrives only in brackish swamps. The "nipa," as it is called, has a stout, creeping, underground stem, and the pinnate leaves, which are in erect clusters, are 7 meters (23 feet) or more in length. The flat fruits, 5 inches long, 4 inches wide, and 2 inches thick, are crowded in a large, round head which is borne on a special, erect stalk. The juice obtained by cutting this stalk just below the fruiting head is a very promising source of sugar and alcohol. Probably 85 per cent of the 3,000,000 gallons of proof alcohol produced annually in the Philippines comes from the "nipa" palm. The leaves of this palm are extensively used for thatching and for making baskets and mats, and the immature seeds are boiled in sugar to form a confection. The tree is also a pleasing ornamental. (Adapted from Brown and Merrill, *Philippine Palms and Palm Products*, p. 98.)

57941 and 57942.

From Barberton, Transvaal. Seeds presented by George Thorncroft. Received September 8, 1923. Quoted notes by Mr. Thorncroft.

57941. NATHUSIA sp. (*Schrebera* sp.) Oleaceæ.

"A tree about 20 feet high with sweet-scented flowers resembling those of the jasmine."

57942. WATSONIA FLAVIDA Bolus. Iridaceæ.

"This is very closely allied to the gladiolus, but the flowers are smaller and creamy white. It grows on stony hills in this region at an altitude of 4,000 feet."

57943. HEVEA BRASILIENSIS (H. B. K.) Muell. Arg. Euphorbiaceæ.

From Dominica, British West Indies. Seeds presented by the Botanic Garden. Received September 13, 1923.

"The Para rubber tree (*Hevea brasiliensis*), native to Brazil and now extensively cultivated in the East Indies, has always ranked as the principal and most important rubber-producing tree of the world.

"In 1922 the world's production of rubber amounted to 379,200 tons, of which 354,980 tons, or 93 per cent of the world's output, came from this source.

"In connection with the investigations now being undertaken by the department for the development of the rubber industry in the Western Hemisphere, this important plant will receive the attention it deserves with a view to establishing plantations in Porto Rico and other tropical dependencies of the United States." (*Alfred Keys.*)

57944 to 58012.

From Kashmir, India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received August 28 and September 6, 1923. Quoted notes by Doctor Harlan.

"(Nos. 205 to 358. Lyallpur. July 16, 1923.) Secured from the botanical section of the Lyallpur Agricultural College. The barleys and wheats are pure lines descendant from single plants."

57944. *CROTALARIA JUNCSEA* L. Fabaceæ.
Sunn hemp.

"(No. 237.) Used as a fiber plant and for green manure."

57945. *ERUCA SATIVA* Hill. Brassicaceæ.
Roquette.

"(No. 232.) A cruciferous weed which grows wild in the drier parts of the Punjab. Sixty thousand tons of seeds are collected annually for the extraction of oil."

57946 to 57965. *HORDEUM* spp. Poaceæ.

57946 to 57948. *HORDEUM VULGARE COELESTE* L.
Six-rowed barley.

57946. "(No. 146. June 15, 1923.) Head selections made in a field near Sumbal. Probably fall seeded."

57947. "(No. 167. June 24, 1923.) From the highest terraces on the west side of the Sind Valley. Altitude between 6,500 and 6,700 feet. Only the upper terraces were planted to this variety."

57948. "(No. 216.) *Gujar Khan.*"

57949 to 57963. *HORDEUM VULGARE PALLIDUM* Seringe.
Six-rowed barley.

57949. "(No. 145. June 15, 1923.) Head selections made near Sumbal."

57950. "(No. 147. June 14, 1923.) Spikes selected in a field in Samwar near Srinagar."

57951. "(No. 168. Mountain side, Sind Valley. June 24, 1923.) Barley grown at a slightly lower altitude than No. 167 [S. P. I. No. 57947]."

57952. "(No. 183. June 24, 1923.) Barley from a bench on the south side of the Sind Valley."

57953. "(No. 205.) *Rewari.* Originally from *Rewari.*"

57954. "(No. 206.) *Lyallpur.* This is the standard or check variety used in the tests at Lyallpur."

57955. "(No. 207.) *Mianwali.* From a town of that name."

57956. "(No. 208.) *Multan.* From a town of that name."

57957. "(No. 209.) *Giyarkhan.* Originally from a nonirrigated district near Rawalpindi."

57958. "(No. 210.) *Hoshiarpur.* From a non-irrigated area."

57959. "(No. 211.) *Lyallpur.* A new selection of dense 6-rowed barley."

57960. "(No. 212.) *Ludhiana*"

57944 to 58012—Continued.

57961. "(No. 213.) *Baluchistan.* From near Quetta."

57962. "(No. 214.) *Nushera.* A good brewing barley."

57963. "(No. 215.) *Gujrat.* From a district of that name in the Punjab."

57964. *HORDEUM DISTICHON NUDUM* L.
Naked barley.

"(No. 217.) *Black barley* from Lyallpur. Two-rowed naked purple."

57965. *HORDEUM VULGARE COELESTE* L.
Six-rowed barley.

"(No. 218.) *Kulu.* A short-awned naked barley from the Kangro Valley."

57966. *LATHYRUS SATIVUS* L. Fabaceæ.
Bittervetch.

"(No. 236.) Found wild and under cultivation."

57967. *LOTUS CORNICULATUS* L. Fabaceæ.

"(No. 162. Raipur. June 18, 1923.) A yellow-flowered low-growing legume growing spontaneously in an orchard."

57968 to 57976. *MEDICAGO* spp. Fabaceæ.

57968. *MEDICAGO HISPIDA APICULATA* (Willd.) Urban.
Bur clover.

"(No. 233.) This legume grows wild in many places in the Punjab. Once established it comes up as a secondary growth in wheat."

57969 and 57970. *MEDICAGO LUPULINA* L.
Black medick.

57969. "(No. 149. June 15, 1923.) A low-growing legume from the orchard in the old garden of Lalla Rukh at Manarbal, Kashmir. Not cultivated."

57970. "(Nos. 188 to 190. Votler. June 26, 1923.) This is a form with branches 4 to 5 feet long."

57971 to 57976. *MEDICAGO SATIVA* L. Alfalfa.

57971 and 57972. "(Nos. 169 and 170. Nacimbagh. June 23, 1923.) Alfalfa was found growing in nonirrigated wheat fields where it had never been seeded as far as the peasants knew. I have seen no cultivated alfalfa in Kashmir. Both samples are immature, but some seed may grow. They were the ripest obtainable. Altitude 5,400 feet, rainfall 20 inches, winter mild."

57971. No. 169. 57972. No. 170.

57973. "(No. 195. Aishmakan. July 1, 1923.) Seeds of several plants found growing in a wheat field. No cultivated alfalfa in this region."

57974. "(No. 196. Aishmakan. July 1, 1923.) Seeds of a different type, later than No. 195 [S. P. I. No. 57973]."

57975. "(No. 197. Aishmakan. July 1, 1923.) Seeds of a single plant later than Nos. 195 and 196 [S. P. I. Nos. 57973 and 57974]. Probably too immature to grow."

57976. "(No. 235.) A local strain."

57977. *MELILOTUS ALBA* Desr. Fabaceæ.
White sweetclover.

"(No. 187. Votler. June 26, 1923.) This seed is immature and may not germinate, but it was the largest on the plants. This is the white-flowered tall sort."

57978. *MELILOTUS INDICA* (L.) All. Fabaceæ.
Sweetclover.

"(No. 238.) Occurs as a weed in many places in the Punjab."

57944 to 58012—Continued.

57979. *TRIFOLIUM PRATENSE* L. Fabaceæ.
Red clover.
“(No. 161. Raipur. June 18, 1923.) Apparently ordinary red clover but not cultivated.”
57980. *TRIFOLIUM REPENS* L. Fabaceæ.
White clover.
“(No. 150. June 15, 1923.) From the orchard in the old garden of Lalla Rukh at Manarbal, Kashmir. Apparently ordinary white clover.”
57981. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceæ.
Fenugreek.
“(No. 234.) Used for fodder and green manure. Does not look as vigorous here as in Tunisia.”
- 57982 to 58009. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ.
Common wheat.
57982. “(No. 148. Simla. June 7, 1923.) Spikes from a threshing floor.”
57983. “(No. 160. Raipur. June 18, 1923.) Selections made in fields about Raipur.”
57984. “(No. 171. Nacimbagh. June 23, 1923.) Head selections of wheat that seemed to differ from the rest of the field.”
- 57985 and 57986. “(Nos. 172 and 173. Nacimbagh. June 23, 1923.) Variations of two types of wheat.”
57985. No. 172. 57986. No. 173.
57987. “(No. 174. Sind Valley. June 24, 1923.) Three spikes of wheat found growing in No. 168 [S. P. I. No. 57951].”
- 57988 to 57995. “(Nos. 175 to 177, 179, 180, and 182. June 24, 1923.) Wheat types on bench on south side of the Sind Valley.”
57988. No. 175. 57992. No. 180.
57989. No. 176. 57993. No. 182.
57990. No. 177. 57994. No. 184.
57991. No. 179. 57995. No. 185.
57996. “(No. 186. Ganderbol. June, 1923.) Consists of a single spike, but no others of this type were found in the immediate locality of this specimen.”
57997. “(No. 219.) *Wheat 17 B*. A selection not yet distributed. A red wheat of good milling and baking quality.”
57998. “(No. 220.) *Type XI wheat*. Has done well in the colony. Profitable for export but poor for milling and baking.”
57999. “(No. 221.) *Lyallpur 8 A wheat*. Good on both dry and irrigable lands. A good milling wheat.”
58000. “(No. 222.) *Lyallpur 8 wheat*. Similar to No. 221 [S. P. I. No. 57999].”
58001. “(No. 223.) *Lyallpur 16 A wheat*. Likely to do well in a dry area.”
58002. “(No. 224.) *Lyallpur 17 wheat*. Try in a dry area.”
58003. “(No. 225.) *Lyallpur No. 14 wheat*. A typical dry-area wheat.”
58004. “(No. 226.) *Lyallpur No. 9 wheat*. This is the check or standard variety at Lyallpur. Good for milling and baking.”
58005. “(No. 227.) *Lyallpur No. 15 wheat*. A dry-land variety.”
58006. “(No. 228.) *Lyallpur 9 C wheat*. A selection from No. 9 wheat [S. P. I. No. 58004].”
58007. “(No. 229.) *Lyallpur Cron III wheat*. A hybrid selection which has done well.”

57944 to 58012—Continued.

58008. “(No. 230.) *Lyallpur Cron II wheat*. The same as No. 229 [S. P. I. No. 58007].”
58009. “(No. 231.) *Lyallpur Cron C 121 wheat*. A hybrid resistant to yellow rust.”
- 58010 to 58012. *TRITICUM DURUM* Desf. Poaceæ.
Durum wheat.
58010. “(No. 159. Raipur. June 18, 1923.) Selections from the only field of pure durum wheat I have seen so far in Kashmir.”
58011. “(No. 178. June 24, 1923.) A type on bench on the south side of Sind Valley.”
58012. “(No. 181. June 24, 1923.) A type on bench on the south side of Sind Valley.”

58013 and 58014.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received September 10, 1923. Quoted notes by Mr. Rock.

58013. *PRUNUS MAJESTICA* Koehne. Amygdalaceæ.

“(No. 8793. Talifu. June 30, 1923.) Var. *talienensis*. Seeds from the same trees as that collected in April, 1922 [S. P. I. No. 55498]. This is a very vigorous and healthy early-fruited wild cherry, which grows at an altitude of about 8,000 feet.”

58014. *ZEA MAYS* L. Poaceæ. Corn.

“(No. 8795. Taku. June, 1923.) This variety is cultivated on the plateau of Taku, by Nashi (Moso) tribesmen, and, next to wheat, is one of their most important crops. The plants are 8 to 10 feet high, and the ears are large and uniformly yellow.”

58015. *MEDICAGO FALCATA* L. Fabaceæ. Alfalfa.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Numbered July, 1923.

“No. 841. 1919 crop.” (*Borodin*.)

Introduced for department agronomists.

58016. *FLACOURTIA INDICA* (Burm. f.) Merr. (*F. ramontchi* L'Herit.). Flacourtiaceæ. Ramontchi.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received July 31, 1923.

A shrub or small tree, armed with scattered slender spines, native to many parts of the Philippine Islands. The white flowers are borne singly or in pairs in the leaf axils or at the ends of short branchlets. The rounded dark-purple fleshy fruits are nearly half an inch in diameter and contain edible fleshy pulp of an agreeable flavor. (Adapted from *Brown, Wild Food Plants of the Philippines*, p. 126.)

For previous introduction, see S. P. I. No. 53576.

58017. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.

From Port of Spain, Trinidad, British West Indies. Seeds presented by R. D. Rands, Bureau of Plant Industry. Received August 1, 1923.

“*Frijoles ballos*. This variety was obtained from the public market in Caracas, Venezuela.” (*Rands*.)

Introduced for department pathologists studying bean diseases.

58018. ATTALEA sp. Phœnicaceæ.
Palm.

From Tepic, Nayarit, Mexico. Seeds presented by M. Bandala, Agrónomo Regional, Dirección General de Agricultura. Received August 17, 1923.

A genus of tropical American palms, some members of which produce valuable oil-yielding fruits, while others are prized for the fiber obtained from the leaves and leafstalks. All are of great ornamental value because of their long graceful pinnate leaves.

58019. PERSEA AMERICANA Mill.
(P. gratissima Gaertn. f.). Lauraceæ.
Avocado.

From Caracas, Venezuela. Seeds presented by H. Pittier. Received September 12, 1923.

"The fruits from which these seeds were taken were obtained from a peddler here in Caracas. They are pear shaped, of uniform size, about 4 inches long and 2 inches in diameter. The rather tough skin is light yellow, and the flesh, rather well developed in proportion to the seed, has a peculiar but agreeable flavor." (*Pittier.*)

58020. STRYCHNOS GILLETII Wildem.
Loganiaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received September 12, 1923.

"The fruits of this species are edible." (*Gillet.*)

A spiny shrub, related to the Kafir orange (*Strychnos spinosa*) which grows wild in thickets in the Belgian Congo. The leathery shining leaves are oblong-oval, deeply notched at the apex, and the fruits are about 2 inches in diameter. (Adapted from *Annales du Musée du Congo, sér. 5, vol. 1, p. 176.*)

58021. POPULUS sp. Salicaceæ.
Poplar.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received September 17, 1923.

"(No. 9501. June, 1923.) A large and handsome tree 60 to 80 feet tall with a trunk 2 to 3 feet in diameter growing at the foot of Kintzu Shan along streams at an altitude of 8,500 feet. The very large dark-green heart-shaped leaves are silvery beneath, and the branches are straight and ascending." (*Rock.*)

58022. LAPAGERIA ROSEA Ruiz and Pav.
Liliaceæ.

From Valparaiso, Chile. Seeds presented by F. L. Crouse, Instituto Agrícola Bunster, Angol, through C. F. Deichman, American consul general, Valparaiso. Received September 4, 1923.

"*Copihue.* This, the national flower of Chile, has been occasionally grown in northern greenhouses, where it creates a genuine sensation when in bloom. It is a climbing plant of slow growth, with slender wiry stems and bright-crimson tubular flowers about 3 inches in length. In southern Chile huge bunches of these blossoms are brought to the railway stations and sold to passing travelers. The plant requires an acid soil." (*Wilson Popenoe.*)

For previous introduction, see S. P. I. No. 54621.

58023. PRUNUS TOMENTOSA Thunb.
Amygdalaceæ. Bush cherry.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received September 17, 1923.

"(No. 8794. Tsehchung. June, 1923.) A shrub about 4 feet high, found in the mountains on the upper Mekong at an altitude of about 10,000 feet. The oval, serrate leaves are densely hairy beneath and the short-stalked fruits also are hairy." (*Rock.*)

INDEX OF COMMON AND SCIENTIFIC NAMES

- Abaca, *Musa textilis*, 57694-57696.
 Acrocarpus frazinifolius, 57882.
 Akala, *Rubus macraei*, 57849.
 Alfalfa, *Medicago falcata*, 58015.
 Medicago sativa, 57705-57729, 57971-57976.
 Amerimnon pinnatum, 57883.
 Amygdalus persica, 57686-57692, 57912-57918.
 Anneslia portoricensis, 57811.
 Annona cherimola, 57799.
 Apple, *Malus prunifolia*, 57928.
 Malus sylvestris:
 King Cole, 57937-57938.
 Artocarpus communis, 57701, 57771.
 Attalea sp., 58018.
 Avocado, *Persea americana*, 58019.
- Barberry, *Berberis bealei*, 57704, 57857.
 Berberis napaulensis, 57884.
 Barley, naked, *Hordeum distichon nudum*, 57964.
 six-rowed, *Hordeum vulgare coeleste*, 57946-57948, 57965.
 Hordeum vulgare pallidum, 57700, 57750-57755, 57812, 57813, 57821, 57822, 57892-57898, 57949-57963.
 Bean, common, *Phaseolus vulgaris*, 57736-57741, 57806-57810.
 hyacinth, *Dolichos lablab*, 57834.
 lima, *Phaseolus lunatus*, 57735, 57802-57805.
 moth, *Phaseolus aconitifolius*, 57843.
 tepary, *Phaseolus acutifolius latifolius*, 57734.
 Berberis bealei, 57704, 57857.
 napaulensis, 57884.
 Bittervetch, *Lathyrus sativus*, 57966.
 Breadfruit, *Artocarpus communis*, 57701, 57771.
 Bromegrass. See *Bromus* spp.
 Bromus hordeaceus, 57861.
 inermis, 57862-57865.
 sterilis, 57866.
 Buddleia asiatica, 57885.
- Calliandra portoricensis. See *Anneslia portoricensis*.
 Caryophyllus malaccensis, 57820.
 Castanopsis argentea, 57732.
 Celtis sellowiana, 57931.
 Chaetochloa italica, 57684.
 Cherimoya, *Annona cherimola*, 57799.
 Cherry, bush, *Prunus tomentosa*, 58023.
 Prunus sp., 57850.
 Prunus cerasoides, 57680.
 Chess, soft, *Bromus hordeaceus*, 57861.
 Chestnut, evergreen, *Castanopsis argentea*, 57732.
 Chonemorpha macrophylla, 57886.
 Citrus sp., 57693.
 australasica. See *Microcitrus australasica*.
 nobilis papillaris, 57854.
 Clover, bur, *Medicago hispida apiculata*, 57968.
 red, *Trifolium pratense*, 57775-57780, 57939, 57979.
 sweet. See Sweetclover.
 Trifolium sp., 57748.
 johnstoni, 57698.
 medium, 57855.
 white, *Trifolium repens*, 57980.
 Colocasia antiquorum, 57800.
 esculenta, 57772, 57773.
 Corn, *Zea mays*, 58014.
 Cotton, *Gossypium* sp., 57798.
 Cowpea, *Vigna sinensis*, 57844, 58017.
 Crotalaria anagyroides, 57830.
 juncea, 57944.
 usaramoensis, 57831.
 Cyamopsis psoraloides. See *Cyamopsis tetragonoloba*.
 tetragonoloba, 57833.
- Dalbergia tamarindifolia*. See *Amerimnon pinna-*
tum.
 Datura sp., 57742.
 Dioscorea sp., 57699.
 alata, 57749, 57832.
 Diospyros kaki, 57733.
 Dolichos lablab, 57834.
- Echinochloa crusgalli*, 57867.
 Edgeworthia gardneri, 57887.
 Elaeis melanococca, 57801.
 Elymus sibiricus, 57685.
 Emmer, *Triticum dicoccum*, 57756.
 Ephedra altissima, 57930.
 Eruca sativa, 57945.
 Eugenia glaucescens, 57932.
 malaccensis. See *Caryophyllus malaccensis*.
- Fenugreek, *Trigonella foenum-graecum*, 57981.
 Flacourtia indica, 58016.
 ramontchi. See *Flacourtia indica*.
- Gladiolus psittacinus*, 57797.
 segetum, 57858.
 Gossypium sp., 57798.
 Grape, *Vitis labrusca* × *vinifera*, 57929.
 Grass, brome. See *Bromus* spp.
 Elymus sibiricus, 57685.
 Guar, *Cyamopsis tetragonoloba*, 57833.
 Guava, *Psidium guajava*, 57828.
- Hevea brasiliensis*, 57943.
 Holcus sorghum, 57835-57842.
 Hordeum distichon nudum, 57964.
 vulgare coeleste, 57946-57948, 57965.
 pallidum, 57700, 57750-57755, 57812, 57813, 57821, 57822, 57892-57898, 57949-57963.
- Ilex paraguariensis*, 57770.
 Ipomoea batatas, 57845-57848.
 papilio, 57829.
- Kaki, *Diospyros kaki*, 57733.
- Lapageria rosea*, 58022.
 Lathyrus sativus, 57966.
 Lens esculenta. See *Lentilla lens*.
 Lentil, *Lentilla lens*, 57823.
 Lentilla lens, 57823.
 Leucadendron argenteum. See *Protea argentea*.
 Leucosceptrum canum, 57888.
 Lime, finger, *Microcitrus australasica*, 57702.
 Lotus corniculatus, 57774, 57967.
 Lupine, *Lupinus* sp., 57743.
Lupinus sp., 57743.
 Lycopersicon esculentum, 57744, 57827.
- Machilus gamblei*, 57889.
 Malus prunifolia, 57928.
 sylvestris, 57937, 57938.
 Manihot tweedieana, 57933.
 Medicago falcata, 58015.
 hispida apiculata, 57968.
 lupulina, 57969, 57970.
 minima, 57899.
 sativa, 57705-57729, 57971-57976.
 Medick, black, *Medicago lupulina*, 57969, 57970.
 Melilotus alba, 57977.
 indica, 57978.
 Microcitrus australasica, 57702.
 Millet:
 barnyard, *Echinochloa crusgalli*, 57867.
 Chaetochloa italica, 57684.

- Milletia thonningii*, 57682.
Morning-glory, *Ipomoea papilio*, 57829.
Musa paradisiaca seminiifera, 57859.
textilis, 57694-57696.
- Nathusia* sp., 57941.
Nypa fruticans, 57940.
- Ohia, *Caryophyllus malaccensis*, 57820.
Opsianra maya, 57681.
Oryza sativa, 57868-57881.
- Palm, *Attalea* sp., 58018.
Elaeis melanococca, 57801.
nipa, *Nypa fruticans*, 57940.
Opsianra maya, 57681.
Phoenix reclinata, 57731.
Sclerosperma sp., 57697.
Pancratium tortuosum, 57795.
Pandanus tectorius, 57730.
Peach, *Amygdalus persica*:
Aurora, 57688.
Bennett's Perfection, 57912.
Early Gem, 57913.
Golden Prolific, 57914.
Lord Kitchener, 57915.
Pomona Mejorada (improved Pomona), 57689.
Reina Elena, 57690.
Rey Alberto, 57691.
Sunrise, 57916.
Trasparente de Conservas, 57692.
Watt's Early, 57917.
White Cling, 57918.
- Pear, Ruby, *Pyrus communis*, 57927.
Persea americana, 58019.
gratissima. See *Persea americana*.
- Phaseolus aconitifolius*, 57843.
acutifolius latifolius, 57734.
lunatus, 57735, 57802-57805.
mungo, 57824.
vulgaris, 57736-57741, 57806-57810.
Phoenix reclinata, 57731.
- Plantain, *Musa paradisiaca seminiifera*, 57859.
- Plum, cherry, *Prunus cerasifera*, 57919-57921.
hybrid, *Prunus salicina* × *cerasifera*:
Ford's Early, 57925.
Fuller's Seedling, 57924.
Norris Early, 57926.
Japanese, Early Blood, *Prunus salicina*, 57923.
Jenkin's Seedling, *Prunus domestica*, 57922.
- Plumeria* spp., 57851-57853.
Poecilanthe parviflora, 57934.
Pomaderris apetal, 57935.
Poplar, *Populus* sp., 58021.
Populus sp., 58021.
Potato, sweet. See Sweet potato.
Prosopis nandubey, 57936.
Protea argentea, 57796.
Prunus sp., 57850.
cerasifera:
Anderson's Early, 57919.
Palmer's Early, 57920, 57921.
cerasoides, 57680.
domestica, 57922.
majestica, 58013.
persica. See *Amygdalus persica*.
puddum. See *Prunus cerasoides*.
salicina, 57923.
salicina × *cerasifera*, 57924-57926.
tomentosa, 58023.
- Psidium* sp., 57745.
guajava, 57828.
Pyrus communis, 57927.
malus. See *Malus sylvestris*.
- Quercus discocarpa*, 57856.
- Ramontchi, *Flacourtia indica*, 58016.
Randia sp., 57703.
Rice, *Oryza sativa*, 57868-57881.
Roquette, *Eruca sativa*, 57945.
Rubus sp., 57683.
macraei, 57849.
Rye, *Secale cereale*, 57900.
- Saccharum officinarum*, 57757-57769, 57781-57794.
Sage, *Salvia* sp., 57746.
Salvia sp., 57746.
Schrebera sp. See *Nathusia* sp.
Sclerosperma sp., 57697.
Secale cereale, 57900.
Setaria italica. See *Chaetochloa italica*.
Solanum sp., 57747.
Sorghum, *Holcus sorghum*, 57835-57842.
Sorghum vulgare. See *Holcus sorghum*.
Strychnos gilletii, 58020.
Sugarcane, *Saccharum officinarum*, 57757-57769, 57781-57794.
Sunn hemp, *Crotalaria juncea*, 57944.
Sweetclover, *Melilotus indica*, 57978.
white, *Melilotus alba*, 57977.
Sweet potato, *Ipomoea batatas*, 57845-57848.
- Talinum triangulare*, 57819.
Taro, *Colocasia* spp., 57772, 57773, 57800.
Tetragium bracteolatum, 57890.
Tomato, *Lycopersicon esculentum*, 57744, 57827.
Trifolium sp., 57748.
johnstoni, 57698.
medium, 57855.
pratense, 57775-57780, 57939, 57979.
repens, 57980.
Trigonella foenum-graecum, 57981.
Triticum aestivum, 57814-57818, 57825, 57826, 57901-57909, 57982-58009.
dicoccum, 57756.
durum, 57910, 57911, 58010-58012.
vulgare. See *Triticum aestivum*.
- Undetermined, 57891.
Urd, *Phaseolus mungo*, 57824.
- Veronica hulkeana*, 57860.
Vetch, bitter. See *Lathyrus sativus*.
Vigna sinensis, 57844, 58017.
Vitis bracteolata. See *Tetragium bracteolatum*.
labrusca × *vinifera*, 57929.
- Watsonia flavida*, 57942.
Wheat, common, *Triticum aestivum*, 57814-57818, 57825, 57826, 57901-57909, 57982-58009.
durum, *Triticum durum*, 57910, 57911, 58010-58012.
- Yam, *Dioscorea* sp., 57699.
greater, *Dioscorea alata*, 57749, 57832.
Yerba maté, *Ilex paraguariensis*, 57770.
- Zea mays*, 58014.



UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 77



Washington, D. C.

Issued August, 1926

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM OCTOBER 1 TO DECEMBER 31, 1923 (S. P. I. NOS. 58024 TO 58454)

CONTENTS

	Page
Introductory statement.....	1
Inventory.....	3
Index of common and scientific names.....	19

INTRODUCTORY STATEMENT

The introduction of hardy plant material from northeastern Asia has long been one of the main objects of the Office of Foreign Plant Introduction of the Bureau of Plant Industry.

Disturbed political conditions since the outbreak of the Great War have made it impracticable to send agricultural explorers into that region, else the work in Siberia, Mongolia, and Turkestan, which was commenced by Frank N. Meyer in 1909, would have been pursued with vigor. It therefore is with great satisfaction that announcement is made that Prof. T. D. A. Cockerell, of the University of Colorado, has sent to this office a large collection of seeds obtained by him during a recent journey through parts of southeastern Siberia. These seeds, which are listed in this inventory under Nos. 58153 to 58357, represent numerous varieties of oats, buckwheat, barley, flax, proso, rye, timothy, wheat, soy beans, corn, and other field crops, as well as a few vegetables. They have been distributed to specialists of the department for preliminary testing.

H. V. Harlan, of the Office of Cereal Crops and Diseases, Bureau of Plant Industry, who left Washington early in 1923 to study barley and other cereal crops in the Mediterranean region, India, and Abyssinia, sent from Spain a collection of seeds, including 8 varieties of oats (*Avena sativa*; Nos. 58042 to 58049), 19 of barley (*Hordeum vulgare pallidum*; Nos. 58050 to 58068), and 12 of wheat (*Triticum aestivum*; Nos. 58074 to 58085).

For use in connection with studies of the host plants of wheat rust which the department is conducting, a large number of species and varieties of *Berberis* have been assembled from time to time. The present inventory records a number of additions, including 3 from Rochester, N. Y. (Nos. 58088 to 58090), 34 from the Arnold Arboretum at Jamaica Plain, Mass. (Nos. 58093 to 58126), 3 from the Botanic Gardens at Glasnevin, Ireland (Nos. 58131 to 58133), and 8 from the Royal Botanic Gardens at Kew, England (Nos. 58136 to 58143).

J. F. Rock's travels in the remote Province of Yunnan, China, continue to yield interesting plants. Among his introductions listed in this inventory some of the most promising seem to be the white-flowered *Prunus* (No. 58040), the wild apple from Likiang (*Malus* sp.; No. 58087), and nine species of *Primula* (Nos. 58368, 58375, 58398 to 58402, 58405, and 58426). His new *Castanopsis*

(*C. delavayi*; No. 58394) is described as one of the finest and hardiest timber trees of its region, and it bears in addition a sweet edible nut.

The Chilean strawberry (*Fragaria chiloensis*; No. 58024), of which several earlier introductions have been made by this office, is proving of much interest to plant breeders in the United States, who are using it to cross with North American strawberries in the hope of producing new forms having their excellent color and flavor combined with the firm texture of the Chilean berry.

Agati tomentosa (No. 58377), received from the Hawaiian Islands through C. S. Judd, should be especially interesting for trial in the Southern States where *Sesbania macrocarpa* succeeds. If it is as palatable to stock as Mr. Judd's note indicates and should prove as resistant to nematodes as is *S. macrocarpa* in the South, it may prove to be quite worth while.

An unusually large number of promising tropical fruits have been received during the period covered by this inventory. The marang (*Artocarpus odoratissima*; No. 58025), which P. J. Wester considers a fruit of unusual promise, has again been introduced for trial in the American Tropics. A new lot of mango-steen seeds (*Garcinia mangostana*; No. 58027), supplied through Vilmorin-Andrieux & Co., of Paris, will be used to provide plants for establishing small orchards of this excellent fruit in the Canal Zone and other parts of tropical America where a few scattered tests have shown that it can be cultivated with success. The ilama of Mexico (*Annona diversifolia*) has fruited at the United States Plant Introduction Garden, Miami, Fla., from seeds introduced by this office several years ago. Its behavior indicates that it may prove a valuable acquisition for southern Florida; plants grown from the seed presented by Dr. C. A. Purpus (Nos. 58030 and 58408) will therefore be used to test this species further in the warmest parts of that State. Mango growers in Florida and the American Tropics generally should devote special attention to the Carabao variety (*Mangifera indica*; No. 58031), which has proved to be a more dependable bearer than most of the Indian sorts at the Miami garden and is at the same time a fruit of excellent quality. The wild avocado of Costa Rica, which may possibly be an ancestor of some of the cultivated avocados, was originally introduced by this office in 1920 for trial as a stock on which to graft the cultivated plants. Though preliminary tests indicate that it may not prove suitable for this purpose, it has seemed advisable to procure an additional lot of seed (*Persea americana*; No. 58365) in order to test the matter thoroughly. The Winslowson avocado (*Persea americana*; No. 58444), a seedling grown at the garden at Miami, has been planted commercially in a number of Florida orchards, where it is proving valuable because of its vigor, its productiveness, its late season of ripening, and the good quality of its fruit. The langsat (*Lansium domesticum*; No. 58382) is probably too tropical in its requirements for cultivation anywhere in the continental United States, but it should succeed in the Canal Zone, Porto Rico, and elsewhere in the American Tropics.

The director of the Royal Botanic Gardens, Kew, England, has sent a number of promising ornamental plants, including seven Cotoneasters (Nos. 58145 to 58151), one Cornus (No. 58144), and one Hydrangea (No. 58152). The American consul at Teheran, Persia, has sent seeds of the best Persian tobacco (*Nicotiana tabacum*; No. 58029). A variety of sugar cane (*Saccharum officinarum*), considered by the director of the Insular Experiment Station, Porto Rico, the most valuable seedling at present planted on the island, is represented by No. 58034. S. K. Mitra, economic botanist to the Government of Assam, sends a broomcorn mutant (*Holcus sorghum*; No. 58129) which will be tested in this country with interest. *Eremochloa ophiuroides* (No. 58389) is being tried as a lawn grass. Tests with earlier introductions of this grass have shown that it is suited for this purpose in Florida and the Gulf coast area of the Southern States. Varietal differences have been observed and further introductions may give better adapted or more valuable strains. A valuable strain of *Lespedeza striata* (No. 58397), originally collected by J. B. Norton in 1919 near Kobe, Japan, has been numbered, so that its history will become a matter of record. Its strong-growing quality makes it superior to common lespedeza.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,
Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., January 7, 1926.

INVENTORY¹

58024. FRAGARIA CHILOENSIS (L.) Duchesne. Rosaceæ. Chilean strawberry.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, Department of Botany and Forestry, Experiment Station of the Sugar Planters' Association. Received October 1, 1923

Seeds sent to Doctor Lyon from Ecuador by Francis X. Williams.

Although the fruit of the Chilean strawberry is inferior in flavor to that of our best cultivated strawberries, it is remarkable for its excellent shipping and keeping qualities, and it seems that varieties might be produced by selection that would merit cultivation on a commercial scale. The berry is much used for canning and preserving and is also eaten fresh. The ripening season of *Fragaria chiloensis* in the highlands of southern Peru and central Chile extends approximately from the latter part of October to January.

For previous introduction see S. P. I. No. 56023.

58025. ARTOCARPUS ODORATISSIMA Blanco. Moraceæ. Marang.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received October 3, 1923.

The marang has been brought recently to the attention of horticulturists by P. J. Wester, who considers it a fruit of unusual promise. It resembles the jack fruit and the seeded breadfruit in appearance but is superior in quality to either of these. The tree, which grows wild in the southern Philippine Islands and the Sulu Archipelago, is medium sized, with large dark-green entire or 3-lobed leaves 18 to 24 inches long. Wester (Food Plants of the Philippines, ed. 3, p. 129) describes the fruit as roundish oblong in form, about 5 inches in length, with the surface thickly studded with soft greenish yellow spines one-third of an inch long. The rind is thick and fleshy, the flesh white, sweet, juicy, aromatic, and of pleasant flavor; it is separated into segments (about the size of a grape) which cling to the core, and each segment contains a whitish seed nearly half an inch long. When the fruit is ripe, by passing a knife around and through the rind, with a little care the halves may be separated from the flesh, leaving this like a bunch of white grapes. In the Philippines it ripens in August.

The tree is strictly tropical in its requirements and probably will not succeed in regions where the temperature falls below 32° to 35° F. It likes a moist atmosphere and abundant rainfall.

For previous introduction see S. P. I. No. 46635.

58026. CUCUMIS MELO L. Cucurbitaceæ. Melon.

From Bareilly, United Provinces, India. Seeds presented by Rev. N. L. Rockey. Received October 3, 1923.

Seeds of a melon bought in Alighur but evidently imported from the borders of Afghanistan or Baluchistan. The native name is *Zarda*. The fruit was yellowish green, weighed 5¼ pounds, and the flesh was 1¾ inches thick. (Rockey.)

The culture of the superior kinds of melon requires considerable attention, but there is hardly a fruit that better deserves it. The kind which ranks as finest of all, called the Surdah, is a native of Kabul and has not, that I am aware, been cultivated with success in any part of India. The fruits are brought occasionally to the Punjab for the wealthy natives, and a friend told me that when at Mooltan an offer of 6 rupees which he made for a single one was refused, so highly are they prized. I have several times raised plants in my garden at Firozpur. They thrive moderately well but bore only one or two fruits, which always rotted on the under side before beginning to ripen. From a portion of one which remained partially sound I was enabled to discover how delicious this fruit must be when raised in perfection. The seeds of this kind are at once to be distinguished from those of any other, being fully four times larger. (*Firminger's Manual of Gardening*, ed. 5, p. 225.)

58027. GARCINIA MANGOSTANA L. Clusiaceæ. Mangosteen.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received October 4, 1923.

For more than 20 years the Office of Foreign Plant Introduction has been interested in the establishment of the Asiatic mangosteen, reputed to be the "queen of fruits," in the tropical American dependencies of the United States. It was believed for many years that the mangosteen could not be made to bear fruit outside of the Asiatic tropics. There is now a fruiting orchard of more than a dozen trees on the island of Dominica in the West Indies and another of nearly the same size near Guayaquil, Ecuador. Fruit has also been produced in Trinidad, Jamaica, and the Hawaiian Islands. It is evident therefore that when given the proper conditions of climate and soil and appropriate cultural treatment the mangosteen can be grown successfully in many regions. The seeds of this fruit are among the most difficult in the world to transport long distances. In 1922 it was found that seed obtained through Vilmorin-Andrieux & Co., of Paris, reached Washington in better condition than any which had been received previously from any source.

For previous introduction see S. P. I. No. 56822

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

58028. HYPHAENE CRINITA Gaertn.
Phœnicaceæ. Palm.

From Pretoria, Union of South Africa. Seeds presented by C. P. Lounsbury, Chief, Division of Entomology. Received October 4, 1923.

A South African fan palm which in some sections of its native country reaches a height of 30 feet. The leaves are used by the natives to make matting, basketware, and rope. From the sap, obtained by tapping the trunk, a native beverage is prepared. (Adapted from *Marloth, Flora of South Africa*, vol. 4, p. 60.)

58029. NICOTIANA TABACUM L. Solanaceæ. Tobacco.

From Teheran, Persia. Seeds presented through Bernard Gotlieb, American consul. Received October 4, 1923.

Seeds of the finest grade of the Persian tobacco variety known as *Shiraz Tumbac*. (Gotlieb.)

Introduced for tobacco specialists.

58030. ANNONA DIVERSIFOLIA Safford.
Annonaceæ. Ilama.

From Chiapas, Mexico. Seeds presented by Dr. C. A. Purpus, Zacuapan, Huatusco, Vera Cruz. Received October 6, 1923.

It is now several years since the Office of Foreign Plant Introduction undertook an investigation of this little-known relative of the cherimoya and decided that it is a species worthy of wide cultivation in the Tropics. In these few years several thousand seedlings have been distributed, not alone in America but also in southern Asia and elsewhere. A young tree growing in the United States Plant Introduction Garden at Miami, Fla., came into bearing in 1923. So far as known, this is the first time ilamas have been produced in the United States. The tree has always been very limited in its distribution. It is native to southern Mexico, Guatemala, and Salvador, where it is found usually in foothill regions at elevations not greater than 2,000 feet. In some parts of Mexico it is called "ilama," in Chiapas "papauce," and in Guatemala and Salvador "anona blanca."

The climatic requirements of this tree are similar to those of the sugar-apple and the custard-apple. It will withstand light frost and often grows in regions where the rainfall is light. Seedling trees come into bearing when 4 or 5 years old. The species is not as robust as the cherimoya, rarely reaching more than 20 feet in height and being of somewhat slender growth. The fruit is conical, oval, or round, and weighs from half a pound to a pound or more. The surface is rough, with the carpellary areas indicated by deeply incised lines. The color varies from pale green to magenta pink, overspread with a whitish bloom, whence the common name "anona blanca," or "white anona." In pale-green varieties the flesh is pure white; in pink kinds it is tinged with that color. The flavor is similar to that of the sugar-apple but with more acid. The seeds are about as numerous as in the cherimoya but slightly larger than those of the latter.

58031. MANGIFERA INDICA L. Anacardiaceæ. Mango.

From Manila, Philippine Islands. Budwood presented by Adn. Hernandez, director, Bureau of Agriculture. Received October 6, 1923.

"Carabao." Average weight 230 grams; form oblong, asymmetrical, with full cheeks; ventral shoulder usually prominent; dorsal shoulder short; stem inserted squarely or obliquely; base rounded; beak rather indistinct and variable, sometimes coinciding with apex; nak about 15 to 25 millimeters above apex, usually not prominent; surface smooth; color yellowish tinged with green; lentils light yellow, usually sparse at basal end of fruit, abundant on apical portion; skin medium thin, tough; flesh yellowish, paler than the *Pico*,

very tender and melting; flavor very delicate, aromatic, and spicy; fiber medium coarse, short, confined almost entirely to edges of seed; seed oblong, medium large; polyembryonic. The similarities in the fruit and trees of the *Carabao* and the *Cambodiana*, introduced into Florida from Saigon, Cochin China, are so many and great that the two types would seem to have a common parentage or to have sprung one from the other; this fact perhaps may also indicate the original home of the *Carabao* mango.

"The tree is of vigorous growth, with fruit mostly ripening from the latter part of May through June and the early part of July; by smoking the trees (the physiological effect of which is not quite understood) and by chopping the bark of the trunk the Filipinos force the trees to bear fruit early in March, but this fruit is not so well flavored as that produced later. In some sections a few mangos are found in the markets during nearly all the months of the year." (P. J. Wester, *Bulletin No. 18, Bureau of Agriculture, Manila*, pp. 23 and 24.)

58032. STRYCHNOS SUBEROSA Wildem.
Loganiaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received October 1, 1923.

The fruit of this species is edible. (Gillet.)

A spiny shrub or small tree, with oval leathery dull-green leaves. It is very similar to *Strychnos gilletii* [S. P. I. No. 58020]. (Adapted from *Annales du Musée du Congo*, ser. 5, vol. 1, p. 177.)

58033. AVENA STERILIS L. Poaceæ. Oats.

From Lincoln, New Zealand. Seeds presented by Dr. F. W. Hilgendorf, biologist, Canterbury Agricultural College. Received October 10, 1923.

"College Algerians. This strain, also known as A 86, is characterized by high tillering power, a creeping habit, quick recovery after feeding off, and a high yield. Under our conditions of climate and soil it has yielded about 10 bushels per acre more than commercial varieties sown under the same conditions." (*New Zealand Journal of Agriculture*, vol. 26, p. 147.)

58034. SACCHARUM OFFICINARUM L. Poaceæ. Sugar cane.

From Rio Piedras, Porto Rico. Cuttings presented by R. Menendez Ramos, director, Insular Experiment Station. Received October 10, 1923.

B. H. 10 (12). This Barbados hybrid is, in my opinion, the most valuable cane seedling at present planted on this island. It is a vigorous cane, giving high tonnage in a variety of soils; it is a heavy stooler and good in ratoon crops. At this station it has yielded as high as 22 per cent sucrose in crusher juice at the age of 13 months. It is tolerant to both mosaic and gumming diseases. (Ramos.)

58035. HIBISCUS ROSA-SINENSIS L. Malvaceæ.

From Manila, Philippine Islands. Cuttings presented by Adn. Hernandez, director, Bureau of Agriculture. Received October 17, 1923.

The Chinese Hibiscus is an exceedingly popular ornamental plant in southern Florida, where the single scarlet variety is practically the only one which has been commonly planted up to this time. The department has undertaken to introduce the best forms from other parts of the world, in the hope of diversifying somewhat the ornamental plantings of Florida gardens. The scarlet variety, though a handsome and useful plant, is in danger of becoming monotonous. An excellent collection of new varieties has recently been introduced from the Hawaiian Islands, where much has been done to improve this genus by breeding.

58036. KENNEDIA RUBICUNDA
(Schneev.) Vent. Fabaceæ.

From Richmond, Victoria. Seeds presented by F. H. Baker. Received October 11, 1923.

A very attractive twining shrub, sometimes 5 or 6 feet in length, with dark-green oval leaflets 3 to 4 inches long and numerous large showy dark-red flowers which occur in pairs in the leaf axils. This species is native to New South Wales. (Adapted from *Sulman, F., Wild Flowers of New South Wales*, p. 130.)

For previous introduction see S. P. I. No. 49487.

58037. PENNISETUM SETOSUM
(Swartz) L. Rich. Poaceæ. Grass.

From Entebbe, Uganda, Africa. Seeds presented by T. D. Maitland, botanist, Botanic Gardens. Received November 9, 1923.

A robust perennial grass, 2 to 4 feet high, distributed through the Tropics of both hemispheres and often used for forage.

Introduced for forage-crop specialists.

58038. CICER ARIETINUM L. Faba-
ceæ. Chick-pea.

From Guadalajara, Mexico. Seeds presented by Frank S. Furnivall, horticulturist, through Anthony Sherman, American vice consul in charge. Received October 17, 1923.

Seeds of a small-seeded chick-pea from Jalisco, introduced for forage-crop specialists.

58039 and 58040.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received October 19, 1923. Notes by Mr. Rock.

58039. MAPPIA sp. Icacinaceæ.

(No. 8711. Tschchung. August, 1923.) A tree 25 feet high which grows on the banks of the Mekong in a region having a rather warm climate. When in flower the tree is very handsome; the flowers, usually white, are in spikes 4 inches long in the leaf axils.

58040. PRUNUS sp. Amygdalaceæ.

(No. 9929. July, 1923.) A white-flowered tree about 25 feet in height from the slopes of Peima Shan (white-horse mountain), two days' journey southeast of Atuntze, at an altitude of 13,000 feet. The oblong red fruits are scarcely edible, although the Tibetans eat them. The region where this tree grows is quite cold, being covered with snow for a large part of the year.

58041. TRIFOLIUM INCARNATUM L.
Fabaceæ. Crimson clover.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received October 22, 1923.

Locally grown crimson clover from the Department of Loire, France. Introduced for cultural and comparison tests.

58042 to 58072.

From Spain. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received October 13, 1923. Notes by Doctor Harlan.

(September, 1923.) Purchased in agricultural villages from growers.

58042 to 58049. AVENA SATIVA L. Poaceæ. Oats.

58042. (No. 248. Yuncos.)

58043. (No. 255.)

58044. (No. 257.)

58042 to 58072—Continued.

58045. (No. 265. Duenas.)

58046. (No. 269. Villacastin.)

58047. (No. 276. Monasterio de Bodilla.)

58048. (No. 280. Uzguiano.) Spring oats.

58049. (No. 284. Villar de Arnero.)

58050 to 58068. HORDEUM VULGARE PALLIDUM
Seringe. Poaceæ. Six-rowed barley.

58050. (No. 246.) Purchased in the village of Parla.

58051. (No. 249. Yuncos.)

58052. (No. 250. Yuncos.)

58053. (No. 252. Arevalo.)

58054. (No. 254.)

58055. (No. 256.)

58056. (No. 258.)

58057. (No. 260.)

58058. (No. 261.)

58059. (No. 263. Duenas.)

58060. (No. 266. Ameyugo.)

58061. (No. 268. Villacastin.)

58062. (No. 278. Uzguiano.) Winter barley.

58063. (No. 279. Uzguiano.) Spring barley.

58064. (No. 281. Villar de Arnero.)

58065. (No. 282. Villar de Arnero.)

58066. (No. 285. Ribofarda.)

58067. (No. 287. Alagon.) Secured from Mariano Argur.

58068. (No. 288.)

58069. LATHYRUS SATIVUS L. Fabaceæ.
Bitter vetch.

(No. 271. Monasterio de Bodilla.)

58070. MEDICAGO SATIVA L. Fabaceæ. Alfalfa.

(No. 275. Monasterio de Bodilla.)

58071. SECALE CEREALE L. Poaceæ. Rye.

(No. 274. Monasterio de Bodilla.)

58072. TRIGONELLA FOENUM-GRÆCUM L. Faba-
ceæ. Fenugreek.

(No. 273. Monasterio de Bodilla.)

58073. TRITICUM AESTIVUM L. (*T.*
vulgare Vill.) Poaceæ.

Common wheat.

From Montgomery, Punjab, India. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received October 13, 1923.

(No. 239. July 19, 1923.) Wheat as it comes to the assembling warehouses from the farms about Montgomery, India. (Harlan.)

58074 to 58085. TRITICUM AESTIVUM
L. (*T. vulgare* Vill.) Poaceæ.

Common wheat.

From Spain. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received October 13, 1923. Notes by Doctor Harlan.

(September, 1923.) Purchased in agricultural villages from growers.

58074. (No. 247. September 20, 1923.) Purchased in the village of Parla.

58075. (No. 251. Arevalo.)

58076. (No. 253. Arevalo.)

58074 to 58085—Continued.

58077. (No. 259.)
 58078. (No. 262.)
 58079. (No. 264. Duenas.)
 58080. (No. 267. Ameyugo.)
 58081. (No. 270. Villacostin.)
 58082. (No. 272. Monasterio de Bodilla.)
 58083. (No. 277. Uzguiano.)
 58084. (No. 283. Villar de Arnero.)
 58085. (No. 286. Alagon.)

58086. Cicer arietinum L. Fabaceae. Chick-pea.

From Gizeh, Egypt. Seeds purchased from the botanical section, Ministry of Agriculture. Received October 31, 1923.

Seeds of the small-seeded chick-pea, introduced for forage-crop specialists.

58087. MALUS sp. Malaceae. Apple.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received October 31, 1923.

(Likiang, August, 1923.) A tree about 30 feet high growing wild in the Likiang district. The small, attractive, uniformly red, oblong, cherry-like fruits have yellowish white acid flesh and are sold in the markets of Likiang. (Rock.)

58088 to 58090. BERBERIS spp. Berberidaceae. Barberry.

From Rochester, N. Y. Cuttings presented by W. L. G. Edson, in charge of the herbarium, Highland Park. Received November 9, 1923.

Introduced for pathologists studying leaf rusts.

58088. BERBERIS ACUMINATA Franch.

An evergreen shrub of open spreading habit with bright-red young growth and stout 3-parted spines 3 to 6 inches long. The brownish yellow flowers, three-quarters of an inch broad, are in clusters of four to eight in the axils of the previous year's shoots. The oblong black fruits are half an inch long. Native to central China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 234.)

58089. BERBERIS CONCINNA Hook. f.

A low, bushy barberry which was discovered in the mountains of Sikkim, India, at an altitude of about 12,000 feet. It is of compact habit, with obovate leaves shining green above and white beneath. The deep-yellow flowers are about half an inch across, and the red oblong berries are a little more than half an inch long. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 238.)

58090. BERBERIS CRATAEGINA DC.

A deciduous shrub 5 feet high with 6 to 10 flowered racemes 1 to 2 inches long and bluish black fruits. Native to Asia Minor.

For previous introduction see S. P. I. No. 53089.

58091 and 58092.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, agricultural adviser, Bureau of Agriculture. Received November 9, 1923. Notes by Mr. Wester.

58091. CAPSICUM ANNUUM L. Solanaceae. Red pepper.

A long, slender, very hot pepper found in Siasi, Sulu Archipelago. It is said to be grown on a commercial scale near Singapore. It is very productive and might be useful for chili growers in the United States.

58091 and 58092—Continued.

58092. FLACOURTIA EUPHLEBIA Merr. Flacourtiaceae.

Lanagon. A small tree, native to these islands, bearing in profusion fruits very similar in appearance and flavor to those of *Flacourtia cataphracta*. They can probably also be used for jelly making.

For previous introduction see S. P. I. No. 54691.

58093 to 58126. BERBERIS spp. Berberidaceae. Barberry.

From the Arnold Arboretum, Jamaica Plain, Mass. Cuttings collected by H. C. Skeels, Bureau of Plant Industry. Received October 31, 1923.

A collection of barberries introduced for pathologists studying leaf rusts.

58093. BERBERIS AEMULANS C. Schneid.

A purple-twiggged shrub 3 or 4 feet high, with oval-oblong leaves, yellow flowers, and yellowish berries. Native to western Szechwan, China. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 434.)

58094. BERBERIS AGGREGATA C. Schneid.

A Chinese shrub 3 to 5 feet high which has yellowish brown spines, small oblong leaves, yellow flowers in dense racemes, and salmon-red fruits. (Skeels.)

For previous introduction see S. P. I. No. 54061.

58095. BERBERIS AGGREGATA PRATII C. Schneid.

A hardy shrub 6 to 10 feet in height, with slender 3-parted spines, oval leaves, narrow panicles of yellow flowers, and egg-shaped salmon-red fruits about one-fourth of an inch in length. It is a native of western China and grows very freely under cultivation at Kew, England. (Adapted from *Curtis's Botanical Magazine*, pl. 8549.)

For previous introduction see S. P. I. No. 55071.

58096. BERBERIS AGGREGATA RECURVATA C. Schneid.

A variety differing from the type only in having the fruiting pedicels recurved. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 443.)

58097. BERBERIS BRACHYPODA Maxim.

A shrub from western China, 4 to 7 feet high, with ovate, serrate leaves, long slender panicles of yellow flowers, and scarlet fruits often half an inch in length. (Skeels.)

For previous introduction see S. P. I. No. 54064.

58098 and 58099. BERBERIS BUXIFOLIA Lam.

58098. A barberry 1 to 3 feet high, with wedge-shaped leaves, solitary orange-yellow flowers on long stems, and blackish purple berries. Native to Chile.

58099. Var. *nana*. A variety which forms compact tufts about a foot high.

58100. BERBERIS CIRCUMSERRATA C. Schneid.

A bush from central China, up to 7 feet high, with roundish oval leaves having very numerous slender spine-tipped serrations. The spines are 3-parted, about half an inch long, and the bright-yellow flowers, half an inch wide, are solitary or in twos or threes on a common stalk. The scarlet fruits are oblong, slightly bloomy, and nearly half an inch long. In autumn the leaves turn scarlet. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, pt. 3, p. 354, and from *Rehder, in Bailey, Standard Cyclopaedia of Horticulture*, vol. 1, p. 491.)

For previous introduction see S. P. I. No. 43819.

58101. BERBERIS CONCINNA Hook. f.

For previous introduction and description see S. P. I. No. 58089.

58093 to 58126—Continued.

58102. *BERBERIS DASYSTACHYA* Maxim.

A bush up to 5 feet in height, native to Hupeh and Shensi, western China. The flowers are yellow and the fruits coral red. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 442.)

58103. *BERBERIS DIELSIANA* Fedde.

A spreading, loosely branched Chinese shrub often 10 feet high, with elliptic leaves that are whitish beneath. The beauty of the red fruits is accentuated by the bronze color of the leaves in the fall. (*Skeels*.)

For previous introduction see S. P. I. No. 54066.

58104. *BERBERIS FRANCISCI-FERDINANDI* C. Schneid.

A shrub 6 to 10 feet in height, with deciduous, papery, dull-green leaves, yellow flowers, and ovoid scarlet berries. Native to western China. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 368.)

58105. *BERBERIS GILGIANA* Fedde.

A native of central China, this ashy barked shrub has somewhat coriaceous lanceolate leaves and dense racemes of yellow flowers. (*Skeels*.)

For previous introduction see S. P. I. No. 54067.

58106. *BERBERIS HENRYANA* C. Schneid.

A Chinese shrub resembling the common barberry (*Berberis vulgaris*) but having purplish or brown branches. It is about 8 feet high with membranous, elliptical leaves, pale beneath, and racemes of 10 to 20 yellow flowers, followed by red fruits. (*Skeels*.)

For previous introduction see S. P. I. No. 54068.

58107. *BERBERIS INTEGERRIMA* Bunge.

A Siberian barberry which forms a shrub up to 6 feet high, with grayish green leaves, dense racemes of small flowers, and black fruits. (Adapted from *Schneider, Illustriertes Handbuch der Laubholzkunde*, vol. 1, p. 308.)

58108. *BERBERIS JULIANAE* C. Schneid.

A shrubby barberry up to 7 feet high, native to western China. It has thick 3-cleft spines about an inch and a half long, narrowly oval leathery leaves, and small yellow flowers. (Adapted from *Sargent, Plantae Wilsonianae*, pt. 1, p. 361, 1913.)

For previous introduction see S. P. I. No. 43820.

58109. *BERBERIS KOREANA* Palibin.

A Korean shrub, often 6 feet high, with obovate leaves 2 to 3 inches long, dense lax racemes of yellow flowers, and round scarlet fruits. (*Skeels*.)

For previous introduction see S. P. I. No. 54069.

58110. × *BERBERIS NOTABILIS* C. Schneid.

A large handsome shrub up to 8 feet in height, with papery blue-green leaves, rather dense clusters of yellow flowers, and purple fruits. Probably a hybrid of *Berberis heteropoda*. (Adapted from *Journal of the Arnold Arboretum*, vol. 4, p. 203.)

58111. × *BERBERIS OTTAWENSIS* C. Schneid.

A spreading-erect shrub 3 or 4 feet high, with very variable foliage, long-stalked yellow flowers, and red berries. A hybrid, one of whose parents is *Berberis vulgaris* f. *atropurpurea*. (Adapted from *Journal of the Arnold Arboretum*, vol. 4, p. 221.)

58112 and 58113. *BERBERIS POIRETI* C. Schneid.

58112. A shrub up to 5 feet in height, with slender, arching branches and deep blood-red berries. Native to northern China.

For previous introduction see S. P. I. No. 50404.

58093 to 58126—Continued.

58113. *Forma weichangensis*. A form of the above species from Weichang, Chihli, China; it differs slightly from the type in the size of the bracts and in spine characters.

For previous introduction see S. P. I. No. 55073.

58114. *BERBERIS POLYANTHA* Hemsl.

A Chinese shrub, 6 to 9 feet high, with deep-yellow flowers and salmon-red fruits. Native to western Szechwan. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 376.)

For previous introduction see S. P. I. No. 53638.

58115. *BERBERIS REHDERIANA* C. Schneid.

This barberry is supposed to be a native of Japan; it is a shrub with weak spines, oblanceolate or ovate-oblong leaves about 1 inch in length, racemes of small yellow flowers, and yellowish red globose fruits. (Adapted from *Bulletin l'Herbier Boissier*, ser. 2, vol. 5, p. 659.)

For previous introduction see S. P. I. No. 49063.

58116. *BERBERIS SIEBOLDII* Miquel.

A Japanese shrub about 3 feet high, with reddish brown branches and obovate leaves 1 to 2 inches long, which turn deep red in the fall. The yellow flowers, in small racemes, are followed by light-red fruits one-fourth of an inch long. (*Skeels*.)

For previous introduction see S. P. I. No. 54072.

58117. *BERBERIS SILVA-TAROUCANA* C. Schneid.

A shrub 3 to 6 feet high, native to thickets in western China, with papery, narrowly oblong leaves, sessile racemes of yellow flowers, and roundish scarlet berries. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 370.)

58118. *BERBERIS SINENSIS* Desf.

A slender-branched shrub 4 to 6 feet high, with ovoid purplish berries. Native to the Caucasus. (*Rehder*.)

58119. × *BERBERIS STENOPHYLLA* Lindl.

A slender shrub 1 to 3 feet in height, with narrow, spiny pointed, dark-green leaves and nodding umbels of yellow flowers. A hybrid of garden origin. (*Rehder*.)

58120. *BERBERIS SUBCAULALATA* C. Schneid.

A thickly branched shrub from Tibet, up to 4½ feet high, with spines up to an inch in length, thick, lance-shaped leaves about an inch long and globular reddish yellow fruits one-fourth of an inch in diameter. (Adapted from *Schneider, Illustriertes Handbuch der Laubholzkunde*, vol. 2, p. 919.)

For previous introduction see S. P. I. No. 43824.

58121. *BERBERIS THUNBERGII* MAXIMOWICZII Regel.

A Japanese barberry which is larger than the ordinary form and has more arching branches, while the leaves are green beneath. It has the same autumn color of the leaves as the common form and has larger flowers and fruits. (*Skeels*.)

For previous introduction see S. P. I. No. 54073.

58122. *BERBERIS THUNBERGII* MINOR Rehder.

A variety of the well-known species which forms a very low, dense shrub up to 2 feet in height.

58123. *BERBERIS TISCHLERI* C. Schneid.

A shrub from western China, 7 to 14 feet high, with spines in threes, papery spine-tipped leaves up to 2 inches in length, and yellow flowers in dense racemes. The somewhat pruinose egg-shaped red fruits appear in October. (Adapted from *Sargent, Plantae Wilsonianae*, pt. 1, p. 355, 1913.)

For previous introduction see S. P. I. No. 43825.

58093 to 58126—Continued.

58124. *BERBERIS TRIACANTHOPHORA* Fedde.

An evergreen shrub, up to 5 feet high, with very narrow leaves, which are sometimes spiny toothed, and black ovoid berries. Native to central China.

58125. *BERBERIS VERNAE* C. Schneid.

A low shrub, native to Kansu, China, with spatulate leaves in small fascicles and small yellow flowers followed by round red berries one-fourth of an inch in diameter. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 372.)

For previous introduction see S. P. I. No. 54074.

58126. *BERBERIS VERRUCULOSA* Hemsl. and Wils.

This attractive Chinese barberry is found as an evergreen shrub in western Szechwan, where it becomes 3 or 4 feet in height. The yellow flowers and ovoid purplish blue fruits are borne among the small, very spiny leaves. (Adapted from *Curtis's Botanical Magazine*, vol. 138, pl. 8454.)

For previous introduction see S. P. I. No. 49129.

58127. *EUCALYPTUS DELEGATENSIS* R. T. Baker.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received December 3, 1923.

These seeds were produced at Tyenna, which has an altitude of over 700 feet and an annual rainfall of over 40 inches. (*Evans*.)

"The gum-topped stringybark is an erect tree, often assuming the largest dimensions. The branches are usually short and ascending, and the bark is thin and fibrous." (*L. Rodway, Tasmanian Eucalypts*, p. 15.)

58128. *TRICHILIA EMETICA* Vahl.
Meliaceae.

From Uganda, British East Africa. Seeds presented by Frank H. Rogers, through H. L. Shantz, Bureau of Plant Industry. Received November 9, 1923.

These seeds are known in Mozambique under the native names *Umkuhlu*, *Marba*, *Marwa-Maawa*, *Guande*, *Mafoureira*, *Mafura*, or *Mafurrera*, where they have long been known as the source of *Mafura* tallow, a vegetable fat used by the natives for greasing the skin. The fat consists of about 55 per cent oleic acid and 45 per cent palmitic acid and has been used in the manufacture of soap. (*W. W. Stockberger, Bureau of Plant Industry*.)

For previous introduction see S. P. I. No. 52811.

58129. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.) Poaceae. Broomcorn.

From Assam, Jorhat, India. Seeds presented by S. K. Mitra, economic botanist to the Government of Assam. Received November 15, 1923.

This broomcorn was picked out as a mutant in my standard broomcorn plat. I received the seed from the United States Department of Agriculture in 1921. (*Mitra*.)

58130. *PENTAGONIA PHYSALODES* (L.) Hiern. (*Nicandra physaloides* Gaertn.) Solanaceae.

From Ures, Sonora, Mexico. Seeds presented by Roberto A. Morales, forest inspector. Received November 15, 1923.

A blue-flowered solanaceous plant with the fruit inclosed in the husk, as in *Physalis*. The campanulate flowers, an inch or more in diameter, are light blue with a lighter throat; they are produced singly in the axils of the leaves.

For previous introduction see S. P. I. No. 48922.

58131 to 58135.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received November 8, 1923.

58131 to 58133. *BERBERIS* spp. Berberidaceae. Barberry.58131. *BERBERIS AETNENSIS* Presl.

A low, dense, deciduous shrub with numerous spines, from Sicily.

58132. *BERBERIS ALKSUTHIENSIS* Hort.

[Place of publication of name not yet found.]

58133. *BERBERIS THIBETICA* C. Schneid.

A deciduous shrub 3 to 4 feet tall, with purplish glaucous branches, entire leaves which are whitish beneath, and yellow flowers, followed by red berries. Native to China. (Adapted from *Schneider, Handbuch der Laubholzkunde*, vol. 2, p. 920.)

For previous introduction see S. P. I. No. 53642.

58134. *COTONEASTER HARROVIANA* Wilson. Malaceae.

An evergreen shrub with a loose, spreading habit, about 6 feet in height, with shining, dark-green, bristle-tipped leaves, dense corymbs of white flowers, and red fruits. Native to Yunnan, China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 410.)

58135. *HEMEROCALLIS FORRESTII* Diels. Liliaceae.

A very handsome plant about 2 feet high, with a thick rootstalk, narrow lanceolate leaves, and deep golden orange tubular flowers, 2 to 3 inches long, borne in many-flowered spikes. It flowers only in very early spring and is suited only for pure limestone soil. (*J. F. Rock, note under S. P. I. No. 55933*.)

58136 to 58152.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received November 10, 1923.

58136 to 58143. *BERBERIS* spp. Berberidaceae. Barberry.58136. *BERBERIS AGGREGATA* PRATTH C. Schneid.

For previous introduction and description see S. P. I. No. 58095.

58137. *BERBERIS BEANIANA* C. Schneid.

A shrub with vigorous shoots, yellow spines, small yellow flowers, and purple plum-shaped fruits. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 439.)

For previous introduction see S. P. I. No. 49925.

58138. *BERBERIS GAGNEPAINI* C. Schneid.

An evergreen shrub 3 to 6 feet high, with leathery leaves, spiny on the margins, and delicate yellow flowers on red pedicels. The ellipsoid berries are glaucous purple. Native to China.

For previous introduction see S. P. I. No. 53634.

58139. *BERBERIS LYCIUM* Royle.

A shrub native to the western Himalayas at altitudes of 3,000 to 9,000 feet, with narrow bright-green leaves and pale-yellow flowers, followed by ovoid violet berries. (Adapted from *Collett, Flora Simlensis*, p. 22.)

For previous introduction see S. P. I. No. 53636.

58136 to 58152—Continued.

58140. BERBERIS POLYANTHA Hemsl.

A deciduous shrub 6 to 10 feet high, with simple or 3-pronged thorns, obovate leaves, mostly rounded at the apex, and yellow flowers, which are produced during June and July in drooping panicles. The berries are red. Native to China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 246.)

For previous introduction see S. P. I. No. 53638.

58141. BERBERIS SOULIEANA C. Schneid.

An evergreen shrub 3 to 6 feet high, with leathery, lanceolate, spiny serrate leaves 2 to 4 inches long and brownish yellow flowers in clusters of 2 to 15. The black ellipsoid berries are about five-eighths of an inch long. Native to China. (Adapted from *Curtis's Botanical Magazine*, vol. 134, pl. 8185, under *Berberis acuminata* Stapf.)

For previous introduction see S. P. I. No. 49930.

58142. BERBERIS STAFFIANA C. Schneid.

A partly evergreen shrub, 5 to 6 feet high with spreading arching stems, pale-yellow flowers, and carmine-red berries. Native to western China.

For previous introduction see S. P. I. No. 53640.

58143. BERBERIS SUBCAULIALATA C. Schneid.

For previous introduction and description see S. P. I. No. 58120.

58144. CORNUS BRETSCHNEIDERI J. Henry. Dogwood.

A shrub up to 12 feet in height, with green or purplish branches, oval, hairy leaves, and dense clusters of bluish black berries.

For previous introduction see S. P. I. No. 42188.

58145 to 58151. COTONEASTER spp. Malaceæ.

58145. COTONEASTER AFFINIS OBTUSA (Wall.) C. Schneid.

An upright slender-branched shrub, with bright-green leaves and globose dark-brown fruits. Native to the Himalayas. (Adapted from *Schneider, Illustriertes Handbuch der Laubholzkunde*, vol. 1, p. 757.)

58146. COTONEASTER HARROVIANA Wilson.

For previous introduction and description see S. P. I. No. 58134.

58147. COTONEASTER HEBEPHYLLA Diels.

A very ornamental deciduous shrub, 10 to 18 feet in height. It has long, rambling branches, white flowers, and dark-carmine fruits. (*J. F. Rock, note under S. P. I. No. 55873.*)

58148. COTONEASTER HUPEHENSIS Rehd. and Wils.

A strong-growing, shrubby, black-fruited species, with graceful spreading branches, attractive white flowers, and crimson globose fruits. (*Arnold Arboretum, Bulletin of Popular Information*, No. 19.)

For previous introduction see S. P. I. No. 44079.

58149. COTONEASTER LINDLEYI Steud.

A large shrub or small tree, with semideciduous dark-green leaves, corymbs of white flowers, and bluish black fruits. Native to the north-western Himalayas. (Adapted from *Schneider, Handbuch der Laubholzkunde*, vol. 1, p. 757.)

For previous introduction see S. P. I. No. 53683.

58136 to 58152—Continued.

58150. COTONEASTER MELANOCARPA LAXIFLORA (Jacq.) C. Schneid.

A spreading shrub which becomes about 12 feet high, with oval dark-green leaves, grayish white beneath, gracefully pendulous clusters of pinkish white flowers, and black globose fruits. This Siberian species is one of the most attractive of the black-fruited cotoneasters. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 412.)

For previous introduction see S. P. I. No. 53685.

58151. COTONEASTER RACEMIFLORA (Desf.) Koch.

A low shrub from northern Africa and western Asia, with roundish leaves, slightly hairy beneath, and short-stalked cymes of white flowers, followed by red fruits. Received as *Cotoneaster fontanesi*, for which *C. racemiflora* is the earlier name.

For previous introduction see S. P. I. No. 53690.

58152. HYDRANGEA BRETSCHNEIDERI Dipp. Hydrangeaceæ.

A stout bushy shrub 8 or 10 feet high, with dull-green slender-pointed leaves and flattened corymbs, 4 or 5 inches wide, of white flowers, which become rosy. This hardy hydrangea was first discovered in the mountains near Peking, China, and thrives best in a sunny position in good soil. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 624.)

For previous introduction see S. P. I. No. 42189.

58153 to 58357.

From Siberia. Seeds presented by Prof. T. D. A. Cockerell, University of Colorado. Received November 2, 1923.

58153. ACTINIDIA KOLOMIKTA (Maxim.) Rupr. Dilleniaceæ.

Razdolnoe. From Nikolsk Ussuriiskii.

58154. ALLIUM CEPA L. Liliaceæ. Onion.

Sweet onion. From Okeanskaia, Olshin.

58155 to 58189. AVENA SATIVA L. Poaceæ. Oats.

58155. *Blagodatnoe*. From Nikolsk Ussuriiskii.

58156. *Bogatirka*. From Nikolsk Ussuriiskii.

58157. *Chernigovka*. From Spassk.

58158. *Chernishevka*. From Spassk.

58159. *Chorol*. From Nikolsk Ussuriiskii.

58160. *Grodekovo*. From Nikolsk Ussuriiskii.

58161. *Innokentievka*. From Spassk.

58162. *Ivanovka*. From Nikolsk Ussuriiskii.

58163. *Kabarga*. From Spassk.

58164. *Krasnoe*. From Posetski.

58165. *Kremovo*. From Nikolsk Ussuriiskii.

58166. *Kuchuki*. From Nikolsk Ussuriiskii.

58167. *Margaritovo*. From Olshin.

58168. *Nizhni Janchich*. From Posetski.

58169 to 58177. From Nikolsk Ussuriiskii.

58169. *Novo-Belmanovka*.

58170. *Novojatkovo*.

58171. *Novo-Kashalinsk*.

58172. *Novo-Nikolaevka*.

58173. *Novo-Troitzkoe*.

58174. *Osinovka*.

58153 to 58357—Continued.

58175. *Pavlovka*.
 58176. *Platonovo Alekandrovscoe*.
 58177. *Popovka*.
 58178. *Sikilsk*. From Posetski.
 58179 to 58183. From Nikolsk Ussuriiskii.
 58179. *Sofie-Alekseevskoe*.
 58180. *Strugovka*.
 58181. *Tarasovka*.
 58182. *Vladimirovskoe*.
 58183. *Vozdvizhenka*.
 58184 to 58186. From the city of Spassk.
 58184. *Beliak*.
 58185. *Grivan*.
 58186. A Swedish variety.
 58187. From Goschoz, Spassk.
 58188. From Goschoz, Nikolsk Ussuriiskii.
 58189. From Nikolsk Ussuriiskii.
 58190 to 58197. From Okeanskaia, Olshin.
 58190 and 58191. *BETA VULGARIS* L. Chenopodiaceæ. **Beet.**
 58190. An Egyptian variety.
 58191. *Korshovaia*.
 58192. *BRASSICA OLERACEA CAPITATA* L. Brassicaceæ. **Cabbage.**
 Braunschweig cabbage.
 58193 and 58194. *CUCUMIS SATIVUS* L. Cucurbitaceæ. **Cucumber.**
 58193. Seeds of mixed varieties: *Nejinski*, *Muromski*, and *Akselski*.
 58194. *Nejinski*.
 58195. *CUCURBITA MAXIMA* Duchesne. Cucurbitaceæ. **Squash.**
 A Canadian variety.
 58196. *CUCURBITA PEPO* L. Cucurbitaceæ. **Gourd.**
 Bottle gourd.
 58197. *DAUCUS CAROTA* L. Apiaceæ. **Carrot.**
Nantski.
 58198 to 58220. *FAGOPYRUM VULGARE* Hill. (*F. esculentum* Moench.) Polygonaceæ. **Buckwheat.**
 58198. *Chernigovka*. From Spassk.
 58199. *Chernishevka*. From Nikolsk Ussuriiskii.
 58200. *Duchovskoe*. From Nikolsk Ussuriiskii.
 58201. *Granaturka*. From Nikolsk Ussuriiskii.
 58202. *Innokentievka*. From Spassk.
 58203. *Kabarga*. From Spassk.
 58204. *Konstantinovka*. From Nikolsk Ussuriiskii.
 58205. *Kremovo* from Nikolsk Ussuriiskii.
 58206. *Krasnoe*. From Posetski.
 58207 to 58218. From Nikolsk Ussuriiskii.
 58207. *Michailovka*.
 58208. *Nesterovskoe*.
 58209. *Novo-Belmanovka*.
 58210. *Novo-Devitza*.

58153 to 58357—Continued.

58211. *Novopsatkovo*.
 58212. *Novo-Troitzkoe*.
 58213. *Osipovka*.
 58214. *Popovka*.
 58215. *Pushkino*.
 58216. *Strugovka*.
 58217. *Tarasovka*.
 58218. *Vozdvizhenko*.
 58219. From Goschoz, Spassk.
 58220. From Goschoz, Nikolsk Ussuriiskii.
 58221 to 58223. *HELIANTHUS ANNUUS* L. Asteraceæ. **Sunflower.**
 58221. *Ivanovka*. From Nikolsk Ussuriiskii.
 58222. *Sofie-Alekseevskoe*. From Nikolsk Ussuriiskii.
 58223. From Goschoz, Spassk.
 58224 to 58233. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceæ. **Six-rowed barley.**
 58224 to 58228. From Nikolsk Ussuriiskii.
 58224. *Chernishevka*.
 58225. *Furmanovo*.
 58226. *Granaturka*.
 58227. *Ivanovka*.
 58228. *Konstantinovka*.
 58229. *Krasnoe*. From Posetski.
 58230 to 58233. From Nikolsk Ussuriiskii.
 58230. *Krasulovka*.
 58231. *Kremovo*.
 58232. *Novo-Belmanovka*.
 58233. *Vozdvizhenko*.
 58234 to 58248. *LINUM USITATISSIMUM* L. Linaceæ. **Flax.**
 58234. *Annenka*. From Spassk.
 58235. *Chernigovka*. From Spassk.
 58236 to 58243. From Nikolsk Ussuriiskii.
 58236. *Chorol*.
 58237. *Kremovo*.
 58238. *Kupuko*.
 58239. *Nesterovskoe*.
 58240. *Nikolo-Lvovskoe*.
 58241. *Novo-Belmanovka*.
 58242. *Novojatkovo*.
 58243. *Popovka*.
 58244. *Promislovka*. From Olshin.
 58245 to 58248. From Nikolsk Ussuriiskii.
 58245. *Sofie-Alekseevskoe*.
 58246. *Strugovka*.
 58247. *Tarasovka*.
 58248. *Vozdvizhenka*.
 58249 and 58250. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ. **Tomato.**
 From Okeanskaia, Olshin.
 58249. *King Humbert*.
 58250. A large yellow tomato.

58153 to 58357—Continued.

58251 to 58272. *PANICUM MILIACEUM* L. Poaceæ.
Proso.

58251 to 58255. From Nikolsk Ussuriiskii.

58251. *Bogatirka*.

58252. *Chernishovka*.

58253. *Furmanovo*.

58254. *Granaturka*.

58255. *Ivanovka*.

58256. *Kabarga*. From Spassk.

58257 to 58262. From Nikolsk Ussuriiskii.

58257. *Kremovo*.

58258. *Michailovka*.

58259. *Nesterovskoe*.

58260. *Novo-Devitza*.

58261. *Osinovka*.

58262. *Platonovo Aleksandrovskoe*.

58263. *Promislovka*. From Olshin.

58264 to 58267. From Nikolsk Ussuriiskii.

58264. *Sofie-Alekseevskoe*.

58265. *Tarasovka*.

58266. *Vladimirovskoe*.

58267. *Vozdvizhenko*.

58268. *Zenkovo*. From Spassk.

58269. *Black*. From Spassk.

58270. *Grits*. From Goschoz, Schmakovski Monastery, Spassk.

58271. *Red*. From Goschoz, Nikolsk Ussuriiskii.

58272. From Novopsatkovo, Nikolsk Ussuriiskii.

58273. *PERILLA FRUTESCENS* (L.) Britton. (*P. ocymoides* L.) Menthaceæ. Perilla.

Sudza. From Nikolsk Ussuriiskii.

58274 to 58277. *PHASEOLUS* spp. Fabaceæ.

58274. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Adzuki bean.

Krasnoe. From Posetski.

58275. *PHASEOLUS COCCINEUS* L. Scarlet Runner bean.

Decorative bean. From Station II, Rechka, Ussuriiskii Railroad.

58276 and 58277. *PHASEOLUS VULGARIS* L. Common bean.

58276. *Furmanovo*. From Nikolsk Ussuriiskii.

58277. Asparagus bean. From Okeanskaia, Olshin.

58278 and 58279. *PHLEUM PRATENSE* L. Poaceæ. Timothy.

58278. *Uspenka*. From Spassk.

58279. From the city of Spassk.

58280 to 58283. *PISUM SATIVUM* L. Fabaceæ. Pea.

58280. *Khvalinka*. From Spassk.

58281. Green peas. From Station II, Rechka, Ussuriiskii Railroad.

58282. Canning peas. From Station II, Rechka, Ussuriiskii Railroad.

58283. From Goschoz, Spassk.

58153 to 58357—Continued.

58284. *RAPHANUS SATIVUS* L. Brassicaceæ. Radish.

An oval-elongated, greenish, Chinese variety of radish. From Okeanskaia, Olshin.

58285 to 58311. *SECALE CEREALE* L. Poaceæ. Rye.

58285 to 58288. Winter rye.

58285. *Blagodatnoe*. From Nikolsk Ussuriiskii.

58286. *Chernigovka*. From Nikolsk Ussuriiskii.

58287. *Chorol*. From Nikolsk Ussuriiskii.

58288. *Delovka*. From Spassk.

58289 to 58303. From Nikolsk Ussuriiskii.

58289. *Duchovskoe*. Spring rye.

58290. *Ennokentievka*. Winter rye.

58291 to 58296. Spring rye.

58291. *Jakonovka*.

58292. *Kremovo*.

58293. *Kuguni*.

58294. *Michailovka*.

58295. *Nesterovskoe*.

58296. *Nikolo-Lvovskoe*.

58297. *Novaia-Devitza*. Winter rye.

58298. *Novojatkovo*. Spring rye.

58299. *Novo-Kalachinek*. Spring rye.

58300. *Novo-Troitskoe*. Winter rye.

58301. *Platonovo Aleksandrovskoe*. Winterrye.

58302. *Popovka*. Spring rye.

58303. *Popovka*. Winter rye.

58304. *Pomislovka*. From Olshinsk.

58305. *Sofie-Alekseevskoe*. From Nikolsk Ussuriiskii.

58306. *Strugovka*. From Nikolsk Ussuriiskii.

58307. *Tarasovka*. From Nikolsk Ussuriiskii.

58308. *Vozdvizhenka*. From Nikolsk Ussuriiskii.

58309. Winter rye. From Schmakovski Monastery.

58310. From Goschoz, Nikolsk Ussuriiskii.

58311. From the city of Spassk.

58312 to 58326. *SOJA MAX* (L.) Piper. (*Glycine hispida* Maxim.) Fabaceæ. Soy bean.

58312. *Chernishevka*. From Nikolsk Ussuriiskii.

58313. *Chorol*. (Chinese "White brow.")

58314. *Fatashi*. From Posetsk.

58315. *Grodekovo*. From Nikolsk Ussuriiskii.

58316. *Ivanovka*. From Nikolsk Ussuriiskii.

58317. *Kazakevitchevo*. From Nikolsk Ussuriiskii.

58318. *Konstantinovka*. From Spassk.

58319. *Krasnoe*. From Posetski.

58320. *Krenlovka*. From Nikolsk Ussuriiskii.

58321. *Nagornaia*. From Posetski.

58322. *Novaia Derevnia*. From Posetski.

58323. *Sofie-Alekseevskoe*. From Nikolsk Ussuriiskii.

58324. *Zenkovka*. From Spassk.

58325. From Goschoz, Spassk.

58153 to 58357—Continued.

58326. From the city of Spassk.
- 58327 to 58342. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.) Poaceae. **Common wheat.**
58327. *Brovki*. From Olshin.
58328. *Chernigovka*. From Spassk.
58329. *Chernishevka*. From Spassk.
58330. *Chorol*. From Nikolsk Ussuriiskii.
58331. *Duchovskoe*. From Nikolsk Ussuriiskii.
58332. *Khvalinka*. From Spassk.
58333. *Margaritovo*. From Olshin.
58334. *Moleim Mis*. From Olshin.
58335. *Petrovka*. From Olshin.
58336. *Promislovka*. From Olshin.
58337. *Sofie-Alekseevskoe*.
58338. *Tumanova*.
58339. *Zenkovka*. From Spassk.
58340. *American beardless*. From the city of Spassk.
58341. From Goschoz, Spassk.
58342. Origin not given.
- 58343 to 58357. *ZEA MAYS* L. Poaceae. **Corn.**
58343. *Chorol*. From Nikolsk Ussuriiskii.
58344. *Fatashi*. From Posetski.
- 58345 to 58350. From Nikolsk Ussuriiskii.
58345. *Golenki*.
58346. *Granaturka*.
58347. *Ivanovka*.
58348. *Kazakevitchevo*.
58349. *Konstantinovka*.
58350. *Krenlovka*.
58351. *Nagornaia*. From Posetski.
58352. *Uspenka*. From Spassk.
58353. *Table maize*. From Okeanskaia, Olshin.
58354. (Turkish.) From the city of Spassk.
58355. From the city of Spassk.
58356. From Nikolsk Ussuriiskii.
58357. From Razdolvinskaia Volost, Nikolsk Ussuriiskii.

58358. *JATROPHA* sp. Euphorbiaceae. **Chilte.**

From San Jacinto, Mexico. Seeds presented by Samuel Torres Elorduy, Chief, Department of Agriculture. Received December 12, 1923.

Introduced for testing as a possible source of rubber.

58359 to 58361.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 15, 1923. Notes by Mr. Rock.

58359. *ANEMONE* sp. Ranunculaceae.

(October 8, 1923.) A plant about 3 feet high, which grows in moist alpine meadows at the edge of fir forests on the Litiping-Yangtze-Mekong watershed at an altitude of about 11,000 feet. The large dark-green glossy leaves form globose cushions, and the umbels of white flowers are on stalks 3 feet or more in length.

58359 to 58361—Continued.

58360. *CEPHALOTAXUS* sp. Taxaceae.

(No. 10891. October 7, 1923.) A small coniferous tree, 20 to 25 feet tall, growing in dense clumps above Lutien on the eastern slope of the Yangtze-Mekong watershed at an altitude of 9,600 feet. The rather long, broad needles are bluish green, and the maroon-colored fleshy fruits, the size of small plums, contain almond-shaped thin-shelled stones.

58361. *IRIS* sp. Iridaceae. **Iris.**

(October 8, 1923.) A plant a foot to a foot and a half in height, growing in clumps in the moist alpine meadows of Litiping, north of Lutien, at an altitude of about 11,000 feet. It is very handsome, with deep indigo-blue flowers.

58362 to 58364.

From Ibarra, Ecuador. Seeds presented by J. Felix Tamayo. Received December 8, 1923.

58362. *DATURA ROSEI* Safford. Solanaceae.

Huantuc. A yellow-flowered form of the common arborescent *Datura* which is cultivated about the huts of the Indians all through the Ecuadorian highlands. The plant sometimes grows to 15 or 18 feet; its tubular flowers are about 6 inches long, 2 inches broad at the mouth, and of a rich deep-yellow color. The plant is worthy of trial as an ornamental in protected situations throughout southern California and in southern Florida.

For previous introduction see S. P. I. No. 54049.

58363. *PHASEOLUS VULGARIS* L. Fabaceae. **Common bean.**

Nuya. The best variety of pole bean which we have in cultivation. (*Tamayo*.)

58364. *ZEA MAYS* L. Poaceae. **Corn.**

Guandango. The best variety of corn cultivated here. The ear is large, sometimes 30 centimeters (a foot) long, with 8 to 12 rows of kernels. The cob is very slender. These seeds are not of a pure strain. (*Tamayo*.)

58365. *PERSEA AMERICANA* Mill. (*P. gratissima* Gaertn. f.) Lauraceae. **Avocado.**

From San Jose, Costa Rica. Seeds purchased from Otón Jimenez, through the United Fruit Co., Limon, Costa Rica. Received December 7, 1923.

While carrying on agricultural explorations in Costa Rica in 1920, Wilson Popenoe, in company with Mr. Jimenez, discovered a wild avocado which, in the opinion of Mr. Popenoe, may possibly be the ancestor of some of the cultivated varieties. At that time budwood and seeds were sent in under S. P. I. Nos. 50585 and 51031, respectively, under which numbers detailed notes will be found. This material failed to survive, however.

The seeds now received from Mr. Jimenez are presumably of this wild type of avocado, and they will be grown for trial as stock plants.

58366. *SCHIZOCENTRON ELEGANS* (Schlecht.) Meisn. Melastomaceae.

From New York, N. Y. Plants presented by Dr. N. L. Britton, director, New York Botanical Gardens, Bronx Park. Received December 28, 1923.

A very charming little creeper, native to eastern Mexico, which roots at the joints and forms a dense carpet. The leaves are small, opposite, and short stemmed, and the comparatively large purplish flowers appear at the ends of short branches. The plant deserves to be more widely cultivated and would probably grow in the open in the southern part of the United States. (Adapted from note by J. N. Rose in *Addisonia*, pl. 266.)

58367 and 58368.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 28, 1923. Notes by Mr. Rock.

58367. PINUS ARMANDI Franch. Pinaceæ.

Pine.

(September 23, 1923.) This is one of the largest conifers in Yunnan. It is a tree 70 to 90 feet high, with a trunk 4 feet in diameter, which grows on well-drained, moist mountain slopes from central to northern Yunnan, at altitudes of 8,000 to 10,000 feet. The edible seeds are sold in the markets.

58368. PRIMULA SIKKIMENSIS Hook. Primulaceæ.

(No. 8995. September, 1923.) This primrose which is 1 or 2 feet high, with the habit of *Primula secundiflora*, grows in moist meadows and along stream beds on the Likiang Snow Range at an altitude of 13,000 feet. The lanceolate drooping leaves are dull green on both sides, and the rich yellow flowers, which appear in June, are large and bell shaped.

58369. HEDYSCEPE CANTERBURYANA (F. Muell.) Wendl. and Drude. Phcenicaceæ. **Palm.**

From Sydney, New South Wales. Seeds presented by J. H. Maiden, director and government botanist, Botanic Gardens. Received November 17, 1923.

This very handsome palm is known in a wild state only on Lord Howe Island, over 400 miles east of Australia, where it is called the "umbrella palm." It is a tall spineless palm with a comparatively short, thick stem, from the end of which arise the dense graceful leaves, composed of long, narrow segments. In habit and foliage it resembles a Kentia, and in general its cultural requirements are the same.

58370. BYRSONIMA SPICATA (Cav.) DC. Malpighiaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, Botanic Gardens. Received November 22, 1923.

A tropical American tree 30 to 40 feet high, known in Dominica as *bois tan*. The narrow leaves are shining green above and rusty brown beneath, and the yellow flowers, followed by acid edible fruits of the same color, make the tree a showy ornamental. The tough, light wood is useful for general construction, and the bark is a source of tannin.

58371. ZEA MAYS L. Poaceæ. **Corn.**

From Bawlf, Alberta, Canada. Seeds presented by A. W. Petrick. Received November 22, 1923.

A yellow flint corn, originally grown in north-western Manitoba by the Mennonites. It is a very early variety, earlier than squaw corn, with a very short growing season. (Petrick.)

58372 and 58373.

From Cambridge, England. Seeds presented by H. Gilbert-Carter, director, The University Botanic Garden. Received November 23, 1923.

58372. LYCOPERSICON ESCULENTUM Mill. Solanaceæ. **Tomato.**

Var. *racemigerum*. The fruits of this variety, which are in racemose clusters, are edible, but too small for domestic use.

Introduced for pathologists studying tomato diseases.

58372 and 58373—Continued.

58373. MECONOPSIS CAMBRICA Viguier. Papaveraceæ.

The Welsh poppy, native to the British Isles, is a very desirable garden perennial. The typical form, about a foot high, has single bright-yellow flowers. Very attractive double forms with orange-colored flowers also have been produced. (Adapted from *Gardeners' Chronicle*, ser. 3, vol. 52, p. 54.)

58374 and 58375.

From Likiang, Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received November 23, 1923. Notes by Mr. Rock.

58374. MECONOPSIS INTEGRIFOLIA (Maxim.) Franch. Papaveraceæ.

(September, 1923.) This is a larger species than *Meconopsis rudis* and grows wild on the Likiang Snow Range in alpine meadows at altitudes of 12,000 to 14,000 feet. The handsome yellow flowers are often 4 inches across.

For previous introduction see S. P. I. No. 56326.

58375. PRIMULA SECUNDIFLORA Franch. Primulaceæ.

(No. 9838.) A primrose about a foot in height, growing in alpine meadows on the Likiang Snow Range at an altitude of about 14,000 feet. The drooping, deep reddish purple flowers, with campanulate corollas, are borne at the apex of the spike. This species is always found associated with *Primula pseudosikkimensis* and *P. pinnatifida*.

For previous introduction see S. P. I. No. 55336.

58376. PAULOWNIA FORTUNEI (Seem.) Hemsl. Scrophulariaceæ.

From Taihoku, Formosa, Japan. Seeds presented by R. Kanehira, director, Experimental Station of Forestry. Received December 3, 1923.

This species, although closely allied to *Paulownia imperialis*, which is so well known as an ornamental tree in this country, has whitish, spotted flowers which are larger than those of *P. imperialis*. The leaves also are much longer and are covered below with a short, dense, white pubescence. (Adapted from *Bulletin Dendrologique de France*, 1908, p. 162.)

For previous introduction see S. P. I. No. 52268.

58377. AGATI TOMENTOSA (Hook. and Arn.) Nutt. (*Sesbania tomentosa* Hook. and Arn.) Fabaceæ.

From Honolulu, Hawaii. Seeds presented by C. S. Judd, superintendent of forestry, Board of Commissioners of Agriculture and Forestry. Received November 26, 1923.

This plant is now almost extinct in this part of the Hawaiian Islands because the foliage is such an attractive forage for cattle and goats. The brilliant-red flowers make the plants very ornamental. From the twigs the frigate birds make their nests. (Judd.)

For previous introduction see S. P. I. No. 54516.

58378. CORYLUS sp. Betulaceæ. **Hazel.**

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received November 26, 1923.

(No. 10760. Likiang, 1923.) Received without notes.

58379. ACACIA SCORPIOIDES (L.) W. F. Wight. (*A. arabica* Willd.) Mimosaceae.

From Gizeh, Egypt. Seeds presented by the director, horticultural section, Ministry of Agriculture. Received November 28, 1923.

A large proportion of the gum arabic of commerce is furnished by this tree, which is native to northern Africa and southwestern Asia. True gum arabic, however, is said to come only from another species, *Acacia senegal*. The pods and bark of *A. scorpioides* are used for tanning, and the leaves and young pods are sometimes fed to cattle. The wood is hard and durable and is used in India for making tools. (Adapted from *Holland, Useful Plants of Nigeria, pt. II, p. 288.*)

For previous introduction see S. P. I. No. 48063.

58380 and 58381. PHELEUM PRATENSE L. Poaceae. Timothy.

From Malaga, Spain. Seeds presented by Luis Liró Ortiz, director, Agricultural Station, Torrox, through Donald D. Shepard, American consul. Received November 28, 1923.

Local strains introduced for cultural and comparison tests.

58380. From the Estación de Ensayo de Semillas, Madrid.

58381. From the grounds of the Agricultural Experiment Station, La Coruna.

58382. LANSIUM DOMESTICUM Jack. Meliaceae. Langsat.

From Los Banos, Philippine Islands. Seeds presented by J. E. Higgins, professor of agronomy and head of the department, College of Agriculture. Received December 5, 1923.

The langsat or lanzon is reckoned one of the best fruits of the Malayan region. As far as can be ascertained there is no reason why it should not do well in the West Indies, Mexico, Central America, and on the continent of South America as far southward as Ecuador and southern Brazil.

The tree reaches 40 feet in height and has pinnate leaves composed of five to seven elliptic leaflets each 4 to 8 inches long. The fruit varies in form and character, but is generally oval or round, 1 to 2 inches in diameter, velvety and straw colored, with a thick leathery skin inclosing five segments of white, translucent, juicy aromatic flesh and one to three large seeds.

Two distinct kinds are known, one termed langsat and the other duku, or doekoe. Choice seedling forms occur in both and should be propagated by some vegetative means.

58383. AMYGDALUS PERSICA L. (Prunus persica Stokes.) Amygdalaceae. Peach.

From Yih sien, Shantung, China. Seeds presented by K. M. Gordon, South Shantung Industrial School. Received December 28, 1923.

The Chinese call this peach *Chiutao*, or "autumn peach." The fruit is small and very bitter, and the variety is used as a stock on which to graft and bud better varieties. (*Gordon.*)

58384 and 58385. CASIMIROA spp. Rutaceae.

From Duarte, Calif. Budwood presented by W. A. Spinks. Received December 5, 1923.

58384. *CASIMIROA* sp.

Coleman. This has been considered for a number of years the best-flavored sapote of this region. The parent tree grows in the rear of the old Coleman residence in Monrovia, Calif. Some years ago A. L. Smith, of Monrovia, propagated several

58384 and 58385—Continued.

trees from the parent tree. He has a specimen 20 feet high which bears prolifically and regularly. The fruit is attractive in shape, and the tree has sapotes on it nearly all the year. (*Spinks.*)

58385. *CASIMIROA* sp.

Spinks. A seedling sapote growing on the grounds of W. A. Spinks at Duarte, Calif.

58386 to 58388. PHASEOLUS VULGARIS L. Fabaceae. Common bean.

From Georgetown, British Guiana. Seeds presented by R. D. Rands, United States Department of Agriculture. Received December 3, 1923.

Introduced for pathologists studying bean diseases.

58386. Madeira butter beans.

58387. Madeira spot beans.

58388. Trinidad beans.

58389. EREMOCHLOA OPHIUROIDES (Munro) Hack. Poaceae. Grass.

From Canton, China. Seeds presented by Prof. G. Weidman Groff, Canton Christian College. Received November 26, 1923.

This is the second most common lawn grass in southern China and is recommended as the best lawn grass for that region. Its usual height is 3 or 4 inches, the blades are smooth and soft, and the seed stalks insignificant. The attractive deep-green color is maintained during the winter in southern China if the grass gets a good hold during the summer. Propagation is easily effected by means of runners. (Adapted from *Bulletin No. 25, Canton Christian College.*)

For previous introduction see S. P. I. No. 48566.

58390. ALSTONIA MACROPHYLLA Wall. Apocynaceae.

From Peradeniya, Ceylon. Seeds presented by H. F. Macmillan, superintendent, botanic gardens. Received December 21, 1923.

A shrub or small tree, native to the East Indies and the Philippines, introduced for testing by rubber specialists. Most of the members of the family to which this species belongs contain milky latex.

58391 and 58392. LARIX spp. Pinaceae. Larch.

From Dorpat, Esthonia. Seeds presented by Franz Boerner, botanic garden, University of Dorpat. Received December 21, 1923.

58391. *LARIX DAHURICA* Turcz.

A larch from Manchuria and southeastern Siberia, sometimes as much as 70 feet in height. In many sections it is superior to the common European larch as a park tree. In the spring the young cones are very attractive because of their bright-pink color.

58392. *LARIX SIBIRICA* Ledeb.

A very tall larch, at times reaching a height of 120 feet, native to northeastern Russia and Siberia. It has a straight slender trunk and short, rather ascending branches. It is closely related to the common European larch.

58393 to 58396.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 3, 1923. Notes by Mr. Rock.

58393 to 58396—Continued.

58393. *ANEMONE DEMISSA* Hook. f. and Thoms.
Ranunculaceæ.

(Saba. September, 1923.) A lovely alpine plant common in limestone soil on all of the mountain meadows of the Likiang Snow Range at altitudes of 11,000 to 13,000 feet and higher. The leaves are in basal rosettes, and the large white flowers are in many-flowered umbels.

58394. *CASTANOPSIS DELAVAYI* Franch.
Fagaceæ.

(No. 10798. September, 1923.) A semideciduous tree 50 to 70 feet tall, with a trunk 4 to 6 feet in diameter, which grows on a limestone range north of Likiang at an altitude of 8,200 feet. It is also quite common on the Yangtze north of Likiang at Tungshan, Shiku, and Hgaza. The glaucous, glabrous leaves are serrate on the upper halves. The fruits are borne in axillary spikes, with 10 to 20 in each spike, and the burs are covered with concentric bands bearing short sharp spines. The fruits are small, with a single ovate to conical nut about half an inch long, inclosing a sweet, edible kernel. This is one of the finest and hardest timber trees of this region.

58395. *INCARVILLEA GRANDIFLORA BREVIPES*
Sprague. Bignoniaceæ.

(No. 8991. Saba. September, 1923.) A stemless plant found in limestone soil on all of the mountain meadows of the Likiang Snow Range at altitudes of 9,500 to 12,000 feet, where it is the first to flower in early spring. The dark-green glossy leaves are lyrate and pinnately cut, and the large flowers, 2 to 3 inches across, are deep magenta purple with yellow throats.

58396. *MECONOPSIS RUDIS* Prain. Papaveraceæ.

(No. 9840. September, 1923.) A plant 1 or 2 feet tall which thrives in loose limestone gravel, in company with *Meconopsis integrifolia*, on the Likiang Snow Range at an altitude of about 13,000 feet.

58397. *LESPEDeza STRIATA* (Thunb.)
Hook. and Arn. Fabaceæ.

Numbered December, 1923.

In 1919 J. B. Norton visited Japan as an agricultural explorer of the United States Department of Agriculture. Among the seeds he brought back were those of a strain of *Lespedeza striata* collected near the city of Kobe. This strain proved to be an unusually strong grower and in tests at Hartsville, S. C., has outgrown both the common *lespedeza* (*L. striata*) of the South and the newly introduced Korean *lespedeza* (*L. stipulacea*). At Arlington Experiment Farm, Rosslyn, Va., the growth of the Kobe and of the Korean varieties has been about the same, but the former makes a finer, more leafy growth and is therefore probably the better forage crop.

The Kobe *lespedeza* does not seed as early as the Korean and at Arlington farm has made a smaller seed crop than the latter. It will therefore probably not reproduce in the North. In habit, leaf shape, and size the Kobe strain is just like the common *lespedeza*, but it grows to a larger size. (A. J. Peters, Bureau of Plant Industry.)

58398 to 58402. *PRIMULA* spp. Primulaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 3, 1923. Notes by Mr. Rock.

58398. *PRIMULA BULLEYANA* Forrest.

(No. 8988. Heshwe. September, 1923.) A very striking species 2 to 3 feet high, found only in boggy meadows at Heshwe, on the eastern slope of the Likiang Snow Range, at an altitude of about 11,000 feet. The deep reddish orange flowers, brownish crimson in bud, are slightly fragrant.

58398 to 58402—Continued.

58399. *PRIMULA POISSONI* Franch.

(September, 1923.) One of the hardiest primroses from this region; it is confined to swampy meadows or even to the gravelly beds of shallow brooks on the Likiang Snow Range at altitudes of 8,000 to 10,000 feet. The flowers, with crimson-lake corollas and yellow throats, are in candle-bralike spikes.

58400. *PRIMULA PULCHELLA* Franch.

(No. 8682. Saba. September, 1923.) A handsome primrose growing in limestone soil in rather moist meadows on the eastern slopes of the Likiang Snow Range at an altitude of 11,000 feet. The lanceolate leaves are yellowish beneath, and the large flowers are bluish purple.

58401. *PRIMULA SINOPURPUREA* Balf. f.

(September, 1923.) A very ornamental species about 2 feet in height, found in moist meadows on the western slopes of the Likiang Snow Range at an altitude of 13,000 feet or more. The linear leaves are bright green above and golden yellow beneath, and the purplish red flowers are borne in dense umbels. The flowers appear in May and June and the fruits in early September.

58402. *PRIMULA VINCIFLORA* Franch.

(No. 8394. September, 1923.) A plant about 15 inches high which loves moist meadows and shady situations on the edges of fir and spruce forests on the eastern slopes of the Likiang Snow Range at an altitude of about 12,000 feet. The leaves are elliptical and dull green, and the large flowers, resembling those of *Vinca*, are a deep indigo blue.

58403 and 58404.

From Para, Brazil. Seeds presented by Godfrey Davidson. Received December 13, 1923. Notes by Mr. Davidson.

58403. *ARISTOLOCHIA* sp. Aristolochiaceæ

This appears to be a new species.

58404. *NYMPHAEA* sp. Nymphaeaceæ.

Waterlily.

A very attractive water lily; the flowers are white, shaded with pink, and delightfully fragrant.

58405. *PRIMULA SINO-DENTICULATA*
Balf. f. Primulaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 7, 1923.

(No. 9617. September, 1923.) One of the earliest primroses of this vicinity, flowering in February on dry grassy slopes of the Likiang Snow Range at altitudes of 7,000 to 11,000 feet. It is likewise distributed from the Tengyueh Mountains to north of Likiang and beyond the Yangtze on Haba Shan. The flowers, in dense globose heads, are deep blue with a slight purplish tinge. (Rock.)

58406. *CUCUMIS* sp. Cucurbitaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received December 12, 1923.

Kondol-nak. I collected these seeds on a recent trip to Tanjay, island of Negros. The fruits are like miniature watermelons in shape and color, averaging 5 centimeters (2 inches) in length. The flesh is edible, though of little value, but the plant might be serviceable for plant breeders who are working to get wilt-resistant cucumbers and watermelons. The fruits remain in good condition on the vines for some weeks and so may be of ornamental value in Florida. (Wester.)

58407. MICHELIA sp. Magnoliaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received November 7, 1923.

(No. 10661. Ngulukeu. September 2, 1923.) A beautiful shrub trained to form an arbor at the Lama temple, which is at an altitude of 9,500 feet on the Likiang Snow Range. The numerous white, fragrant flowers, about the size of a silver dollar, are in the leaf axils, the leaves are leathery and dark green, and the buds are silky brown. The black seeds, inclosed in a scarlet aril, are in capsules. (Rock.)

58408 to 58412.

From Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received December 12, 1923.

58408. *ANNONA DIVERSIFOLIA* Safford. *Annonaceæ.* *Ilama.*

For previous introduction and description see S. P. I. No. 58030.

58409. *CERATZAMIA MEXICANA* Brongn. *Cycadaceæ.*

A handsome cycad from southeastern Mexico, with a short, thick, ovoid trunk, which is crowned with a whorl of rich dark-green pinnate leaves several feet in length. An excellent decorative plant, which is best grown in sandy loam.

58410 to 58412. *MIMOSA* spp. *Mimosaceæ.*

These are fine ornamental species growing in very sandy soil. (Purpus.)

58410. *MIMOSA SOMNIANS* Humb. and Bonpl.

A tropical American mimosa, usually herbaceous but often somewhat shrubby, armed with a few short spines and having white or pinkish flowers.

58411. *MIMOSA ASPERATA* L.
No. 6.

58412. *MIMOSA* sp.
No. 10.

58413 to 58424.

From Ladakh, Kashmir, India. Seeds collected by H. T. Cowling at the request of H. V. Harlan, Bureau of Plant Industry. Received December 7, 1923. Notes by Mr. Cowling.

58413. *BRASSICA* sp. *Brassicaceæ.*

(No. 4.) A plant from which the Ladakh natives obtain an oil; collected at 15,000 feet altitude.

58414. *ERUCA SATIVA* Hill. *Brassicaceæ.* *Roquette.*
(No. 7.)

For previous introduction see S. P. I. No. 46501.

58415. *HORDEUM VULGARE PALLIDUM* Seringe. *Poaceæ.* *Six-rowed barley.*

(No. 2.) Tibetan barley from an altitude of 10,000 to 13,500 feet.

58416 to 58418. *HORDEUM VULGARE COELESTE* L. *Poaceæ.* *Naked barley.*

58416. (No. 12.) From Himsa Kharbu.

58417. (No. 1.) Collected at an altitude of 14,000 feet.

58418. (No. 13.) From Jhirla.

58419. *LATHYRUS SATIVUS* L. *Fabaceæ.* *Bitter vetch.*

(No. 3.) Collected at an altitude of 11,000 to 13,000 feet.

58420 and 58421. *MEDICAGO SATIVA* L. *Fabaceæ.* *Alfalfa.*

58420. (No. 5.) Collected at an altitude of 11,500 to 15,000 feet.

58413 to 58424—Continued.

58421. (No. 3.) A type raised in Ladakh for sheep and horses.

58422. *PISUM SATIVUM* L. *Fabaceæ.* *Pea.*
(No. 9.) Collected at an altitude of 11,500 to 13,000 feet.

58423. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.) *Poaceæ.* *Common wheat.*

(No. 10.) Collected at an altitude of 11,500 to 14,000 feet.

58424. *VICIA FABA* L. *Fabaceæ.* *Broad bean.*
(No. 6.) Collected at an altitude of 11,500 to 13,000 feet.

58425 to 58427.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received December 12, 1923. Notes by Mr. Rock.

58425. *MECONOPSIS DELAVAYI* Franch. *Papaveraceæ.*

(No. 9377. September, 1923.) This is one of the prettiest blue poppies of the Likiang Snow Range, where it grows in moist meadows and on gravelly slopes at altitudes of 11,000 to 12,500 feet, usually in small groups of 20 or more. The plants are 6 to 10 inches in height, with large drooping purplish indigo-blue flowers.

58426. *PRIMULA DRYADIFOLIA* Franch. *Primulaceæ.*

(No. 9862. September, 1923.) A very handsome, rather uncommon primrose which forms cushions in moist rocky places on the eastern slopes of the Likiang Snow Range at an altitude of 15,000 feet. The plant is only 4 or 5 inches high, with spatulate leaves, golden below, and large rich-crimson purple-tinged flowers, which appear from June to August.

58427. *TROLLIUS* sp. *Ranunculaceæ.*

(No. 9651. September, 1923.) A very showy plant about 2 feet high which grows in moist alpine meadows on the eastern slopes of the Likiang Snow Range at altitudes of about 12,000 feet, also on Haba Shan, north of the Yangtze bend. The leaves are basal, and each plant bears about 10 large deep golden-yellow flowers 2 inches or more in width.

58428 to 58431.

From Asnieres, Seine, France. Seeds presented by René Bourgeois. Received December 29, 1923.

58428. *PEUCEDANUM OSTRUTHIUM* (L.) Koch. *Apiaceæ.*

A perennial herb native to the French Alps. The acid aromatic root is utilized for the preparation of some kinds of Swiss cheese. (Adapted from Mueller, *Select Extra-Tropical Plants*, p. 366.)

For previous introduction see S. P. I. No. 52860.

58429 and 58430. *PHASEOLUS VULGARIS* L. *Fabaceæ.* *Common bean.*

These are considered by Mr. Bourgeois to be the best stringless beans in France.

58429. Var. *Phoenix.* 58430. Var. *Progres.*

58431. *RUMEX ALPINUS* L. *Polygonaceæ.* *Sorrel.*

The leaves are eaten like spinach, according to Mr. Bourgeois, and an infusion of the roots is used as a cough remedy.

58432 to 58434. MUSA spp. Musaceæ. Banana.

From Honolulu, Hawaii. Shoots presented by Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received December 28, 1923.

58432 to 58434—Continued.

58432. MUSA FEHI Bert. Fehi banana.

Fehi. An upright-fruited Hawaiian variety with red fruits. The young shoots are very long and slender. (Pope.)

For previous introduction see S. P. I. No. 54673.

58433 and 58434. MUSA PARADISIACA SAPIENTUM (L.) Kuntze.

58433. *Lady's-Finger*. The Hawaii Experiment Station obtained its first offshoot of the *Lady's-Finger* variety March 21, 1912, from E. W. Rowell, since deceased, who lived on Vineyard Street, Honolulu. The station records give no information as to where the original plants in Hawaii came from. The plant is well known in Costa Rica, Jamaica, and British and French Guiana.

The *Lady's-Finger* banana is generally described as a variety of superior flavor, but on account of tenderness is a poor shipper. W. Fawcett in a recent publication, "The Banana," says that in British Guiana, where there has been great loss, ranging from 25 to 75 per cent of the Jamaica variety (Blue-fields), from the fungus disease known as "Panama disease," the *Lady's-Finger* has not been attacked.

Plant: At maturity of fruit the plant is about 20 feet tall, trunk rather slim; with-stands considerable wind, indicating good root system. With good culture, offshoots are fairly abundant; outer trunk sheaths appear dark with reddish brown streaks. Foliage: Dark green, leaf petioles greenish with edges tinged light yellow; blade averages about 7 feet in length, 14 inches wide, dark green above, dull green below. Flowers: Terminal spike on long stout flower stalk, which begins to turn downward on emerging from the trunk; spathe greenish, bracts which cover undeveloped flower hands purplish and with frosted bloom outside, reddish brown inside; floral parts pale yellow with calyx split at margin into four or five parts which are bright yellow and curved outward. Fruits: Bunch long, slim, very compact. Average weight of Hawaiian-grown specimens 36 pounds, 10 to 12 hands; number of bananas to the hand vary from 13 to 20 from extreme to base; number of bananas to the bunch, usually over 200. Individual bananas 4 to 5 inches long, spindle shaped, apex beaked, attached end of stem three-fourths to 1 inch long, skin light yellow, thin, tender; pulp, yellow, melting, of good subacid flavor, placenta of 3-celled ovary very rudimentary. (Pope.)

58434. *Popoulu*. A well-known variety of cooking banana, common in the Honolulu markets. The plant is of medium height. The stem is green with a slight tendency to pinkish tints on the petioles. The scape is rather slender; the bunch itself is of medium size. There are 8 to 10 fruits per hand. The fruits are short, thick, rounded, and blunt at the ends. This banana is of good quality when cooked; the flesh is firm and sweet. Other members of the *Popoulu* group are: *Kaio*, *Hua moa*, *Moa*, *Nou*, and *Lahi*. (*Plant World*, vol. 21, p. 6.)

58435 to 58441.

From Tientsin, China. Seeds presented by J. C. Huston, American consul in charge. Received November 28, 1923. Notes by Mr. Huston.

58435. GOSSYPIMUM sp. Malvaceæ. Cotton.

White cotton from Chihnsien, which is sown the latter part of April and ripens the latter part of October. The average yield per mow (about one-sixth of an acre) is 100 catties (approximately 800 pounds per acre).

58435 to 58441—Continued.

58436. MEDICAGO SATIVA L. Fabaceæ. Alfalfa.

From Tientsin, where it is sown early in July. It matures the following June. The average yield per mow is 2,000 catties (approximately 7 long tons per acre).

58437. NICOTIANA TABACUM L. Solanaceæ. Tobacco.

From Shaho. Planted the first part of April, transplanted and harvested late in September. The average yield per mow is 100 catties.

58438. ORYZA SATIVA L. Poaceæ. Rice.

Large, white-bearded water rice, from Tientsin. This variety is sown the latter part of March and harvested the latter part of September. The average yield per mow is 2 piculs (approximately 1,600 pounds per acre).

58439. SOJA MAX (L.) Piper. (*Glycine hispida* Maxim.) Fabaceæ. Soy bean.

Large black beans from Chinghaihsien; sown the latter part of April and harvested the first part of September. The average yield per mow is 1 picul (approximately 800 pounds per acre).

58440. TRITICUM AESTIVUM L. (*T. vulgare* Vill.) Poaceæ. Common wheat.

From Feihsiang; sown late in September and harvested the following June. The average yield per mow is 1 picul (approximately 800 pounds per acre).

58441. ZEA MAYS L. Poaceæ. Corn.

Yellow corn from Peking; sown the latter part of April and harvested the latter part of August. The average yield per mow is 1½ piculs (approximately 1,200 pounds per acre).

58442 and 58443. GOSSYPIMUM spp. Malvaceæ.

From South America. Seeds presented by E. L. Prizer, Bureau of Plant Industry. Received December 5, 1923.

Collected in Para, Brazil, October 31, 1923. (Prizer.)

Introduced for cotton specialists.

58442. GOSSYPIMUM sp. Cotton.

58443. GOSSYPIMUM sp. Kidney cotton.

58444. PERSEA AMERICANA Mill. (*P. gratissima* Gaertn. f.) Lauraceæ. Avocado.

Growing at the Plant Introduction Garden, Miami, Fla. Numbered December, 1923.

Alfred A. Winslow, consul general at Guatemala City, sent to this office in 1904 an avocado seed which was planted at the Miami Plant Introduction Garden [S. P. I. No. 10978]. It grew into a tree which bore its first fruits in 1911. A few fruits from the first crop were sent to P. H. Rolfs at Gainesville, Fla., with the suggestion that he save the seeds. This was done, and two seedlings were inarched on old trees at Buena Vista, near Miami, where Professor Rolfs owned property at that time. One of these two fruited in 1917 and was called Winslowson by Mr. Simmonds, superintendent of the Miami garden, and young trees of the variety were soon in the hands of nurserymen.

In all probability the variety is a cross between the Guatemalan and West Indian races. The seed parent, Winslow, is a typical Guatemalan, round, small, and having a very hard shell, rough on the exterior. The pollen parent was probably one of the West Indian varieties cultivated at the Miami garden. Winslowson ripens earlier in southern Florida than most of the true Guatemalans, November being its season, though the fruits may hang on the tree as late as January. It is a productive sort and a sturdy grower. The fruit is large, attractive, and of very satisfactory quality.

58445. *SANDORICUM KOETJAPE* (Burm. f.) Merr. (*S. indicum* Cav.). Meliaceæ. Santól.

From Dominica, British West Indies. Seeds presented by Joseph Jones, Botanic Garden. Received December 22, 1923.

The santól is a Philippine tree which becomes 80 feet tall in its native country, with trifoliate, hairy leaves and greenish yellow or straw-colored flowers. The chief value of the tree resides in its yellowish fruit, which is rounded or flattened, about 2 inches in diameter, with rather large seeds inclosed in translucent, acid, edible pulp of good flavor. When peeled, quartered, and cooked in sirup the fruits make a delicious preserve. (Adapted from *Brown, Wild Food Plants of the Philippines*, p. 86.)

This tree is not suited for cultivation in the United States except perhaps in the warmest parts of Florida. It is of interest for trial in Porto Rico, the Canal Zone, and Hawaii. Its fruit is not rated very high among those which are eaten in the Asiatic Tropics.

58446 to 58454. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze. Musaceæ. Banana.

From Honolulu, Hawaii. Shoots presented by Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received December 22, 1923.

58446. The *Bluefields*, also known as the *Jamaica*, is one of the most important banana varieties from a commercial standpoint. It is the chief banana of the American trade. The plants are large, and the fruits are of fine appearance, of fair flavor, and well placed on the bunch for convenient handling. It is excellent for shipping. (Adapted from *Bulletin 7 of the Hawaii Agricultural Experiment Station*, p. 42.)

58447. The *Brazilian*, as it is known locally, is considered by some authorities as the finest variety in the Hawaiian Islands for eating raw. It was introduced into Hawaii from Tahiti about 1855 and probably is the same as the variety known in Java as *Pisang rajah* or *Pisang medji*, the "dessert banana" of Java. The plant is a vigorous grower, 25 to 35 feet high, roots firmly and withstands winds, ratoons

58446 to 58454—Continued.

freely, and serves as a windbreak for more delicate varieties. The flower end of the fruit is drawn out into a kind of beak. The skin is yellow, easily separating from the fruit. The variety is not satisfactory for shipping because the fruit falls from the bunch. (Adapted from *Bulletin 7 of the Hawaii Agricultural Experiment Station*, p. 45.)

58448. *Chamaluco*. The plant is from 10 to 15 feet in height, with medium-sized leaves, and when grown in fertile soil the bunches of fruit are rather large. There are two types, one with green and the other with gray fruits. The greater part of these fruits are eaten cooked at the time when other varieties are ripe. (Adapted from *Bulletin 25, Departamento de Agricultura y Trabajo, Porto Rico*, p. 19.)

For previous introduction see S. P. I. No. 55246.

58449. *Chinese*. A variety introduced from Tahiti into the Hawaiian Islands about 1855. The plant is of very low growth, the fruit of good flavor, and the bunch of large size. It is an excellent variety for shipping, but will not stand as rough handling as the *Jamaica*. (Adapted from *Bulletin 7 of the Hawaii Agricultural Experiment Station*, p. 44.)

58450. *Ice Cream*.

For previous introduction see S. P. I. No. 55247.

58451. *Largo*. Introduced into Hawaii from Mexico. The plant is of medium height and the fruits, borne in long-stemmed bunches, have buttery pink flesh of fair flavor. (*J. E. Higgins, Bulletin 7, Hawaii Agricultural Experiment Station*.)

For previous introduction see S. P. I. No. 55250.

58452. *Platano*.

58453. *Porto Rico*.

For previous introduction see S. P. I. No. 55251.

58454. *Red Cuban*. This is the proper name of the largest sized variety of the various red bananas—large both as to plant and fruit. A well-grown bunch has 8 to 10 hands and individual fingers from 2 to 2½ inches in diameter. This is the red banana of commerce. (*Goldsmith H. Williams, Crescent City, Fla.*)

For previous introduction see S. P. I. No. 55252.

INDEX OF COMMON AND SCIENTIFIC NAMES

- Acacia arabica*. See *Acacia scorpioides*.
Acacia scorpioides, 58379.
Actinidia kolomikta, 58153.
Agati tomentosa, 58377.
Alfalfa, *Medicago sativa*, 58070, 58420, 58421, 58436.
Allium cepa, 58154.
Alstonia macrophylla, 58390.
Amygdalus persica, 58383.
Anemone sp., 58359.
demissa, 58393.
Annona diversifolia, 58030, 58408.
Apple, *Malus* sp., 58087.
Aristolochia sp., 58403.
Artocarpus odoratissima, 58025.
Avena sativa, 58042-58049, 58155-58189.
sterilis, 58033.
Avocado, *Persea americana*, 58365, 58444.
Banana, *Musa paradisiaca sapientum*:
Bluefields, 58446.
Brazilian, 58447.
Chamaluco, 58448.
Chinese, 58449.
Ice Cream, 58450.
Lady's-Finger, 58433.
Largo, 58451.
Platano, 58452.
Popoulu, 58434.
Porto Rico, 58453.
Red Cuban, 58454.
Fehi, *Musa fehi*, 58432.
Barberry, *Berberis* spp., 58088-58090, 58093-58126, 58131-58133, 58136-58143.
Barley, six-rowed, *Hordeum vulgare pallidum*, 58050-58068, 58224-58233, 58415.
naked, *Hordeum vulgare coeleste*, 58416-58418.
Bean, adzuki, *Phaseolus angularis*, 58274.
broad, *Vicia faba*, 58424.
common, *Phaseolus vulgaris*, 58276, 58277, 58363, 58386-58388, 58429, 58430.
Scarlet Runner, *Phaseolus coccineus*, 58275.
Beet, *Beta vulgaris*, 58190, 58191.
Berberis acuminata, 58088.
aemulans, 58093.
aetnensis, 58131.
aggregata, 58094.
prattii, 58095, 58136.
recurvata, 58096.
alkuthiensis, 58132.
beaniana, 58137.
brachypoda, 58097.
buxifolia, 58098, 58099.
circumserrata, 58100.
concinna, 58089, 58101.
crataegina, 58090.
dasytachya, 58102.
dielsiana, 58103.
francisci-ferdinandi, 58104.
gagnepaini, 58138.
gilgiana, 58105.
henryana, 58106.
integerrima, 58107.
julianae, 58108.
koreana, 58109.
lycium, 58139.
notabilis, 58110.
ottawensis, 58111.
poireti, 58112, 58113.
polyantha, 58114, 58140.
rehderiana, 58115.
sieboldii, 58116.
silva-laroucana, 58117.
sinensis, 58118.
soulieana, 58141.
stapfiana, 58142.
stenophylla, 58119.
subcaulialata, 58120, 58143.
thibetica, 58133.
thunbergii maximowiczii, 58121.
minor, 58122.
tischleri, 58123.
triacanthophora, 58124.
vernac, 58125.
serruculosa, 58126.
Beta vulgaris, 58190, 58191.
Brassica sp., 58413.
oleracea capitata, 58192.
Broomcorn, *Holcus sorghum*, 58129.
Byrsonima spicata, 58370.
Buckwheat, *Fagopyrum vulgare*, 58198-58220.
Cabbage, *Brassica oleracea capitata*, 58192.
Capsicum annuum, 58091.
Carrot, *Daucus carota*, 58197.
Casimiroa spp., 58384, 58385.
Castanopsis delavayi, 58394.
Cephalotaxus sp., 58360.
Ceratozamia mexicana, 58409.
Chick-pea, *Cicer arietinum*, 58038, 58086.
Chilte, *Jatropha* sp., 58358.
Cicer arietinum, 58038, 58086.
Clover, crimson, *Trifolium incarnatum*, 58041.
Corn, *Zea mays*, 58343-58357, 58364, 58371, 58441.
Cornus bretschnideri, 58144.
Corylus sp., 58378.
Cotoneaster affinis obtusa, 58145.
harroviana, 58134, 58146.
hebeophylla, 58147.
hupehensis, 58148.
lindleyi, 58149.
melanocarpa laxiflora, 58150.
racemiflora, 58151.
Cotton, *Gossypium* spp., 58435, 58442.
kidney, *Gossypium* sp., 58443.
Cucumber, *Cucumis sativus*, 58193, 58194.
Cucumis sp., 58406.
melo, 58026.
sativus, 58193, 58194.
Cucurbita maxima, 58195.
pepo, 58196.
Datura rosei, 58362.
Daucus carota, 58197.
Dogwood, *Cornus bretschnideri*, 58144.
Eremochloa ophiuroides, 58389.
Eruca sativa, 58414.
Eucalyptus delegatensis, 58127.
Fagopyrum esculentum. See *F. vulgare*.
vulgare, 58198-58220.
Fenugreek, *Trigonella foenum-graecum*, 58072.
Flacourtia euphlebia, 58092.
Flax, *Linum usitatissimum*, 58234-58248.
Fragaria chiloensis, 58024.
Garcinia mangostana, 58027.
Glycine hispida. See *Soja max*.
Gossypium spp., 58435, 58442, 58443.
Gourd, *Cucurbita pepo*, 58196.
Grass, *Eremochloa ophiuroides*, 58389.
Pennisetum setosum, 58037.
Hazel, *Corylus* sp., 58378.
Hedyscepe canterburyana, 58369.
Helianthus annuus, 58221-58223.
Hemerocallis forrestii, 58135.
Hibiscus rosa-sinensis, 58035.
Holcus sorghum, 58129.
Hordeum vulgare coeleste, 58416-58418.
vulgare pallidum, 58050-58068, 58224-58233, 58415.
Hydrangea bretschnideri, 58152.
Hyphaene crinita, 58028.
Ilama, *Annona diversifolia*, 58030, 58408.
Incarvillea grandiflora brevipes, 58395.
Iris sp., 58361.
Jatropha sp., 58358.
Kennedia rubicunda, 58036.
Langsat, *Lansium domesticum*, 58382.
Lansium domesticum, 58382.
Larch, *Larix* spp., 58391, 58392.

Larix dahurica, 58391.
sibirica, 58392.
Lathyrus sativus, 58069, 58419.
Lepedeza striata, 58397.
Linum usitatissimum, 58234-58248.
Lycopersicon esculentum, 58249, 58250, 58372.

Malus sp., 58087.
Mangifera indica, 58031.
Mango, *Mangifera indica*, 58031.
Mangosteen, *Garcinia mangostana*, 58027.
Mappia sp., 58039.
Marang, *Artocarpus odoratissima*, 58025.
Meconopsis cambrica, 58373.
delavayi, 58425.
integrifolia, 58374.
rudis, 58396.

Medicago sativa, 58070, 58420, 58421, 58436.
Melon, *Cucumis melo*, 58026.
Michelia sp., 58407.
Mimosa sp., 58412.
asperata, 58411.
somnians, 58410.
Musa fehi, 58432.
paradisiaca sapientum, 58433, 58434, 58446-58454.

Nicandra physaloides. See *Pentagonia physalodes*.
Nicotiana tabacum, 58029, 58437.
Nymphaea sp., 58404.

Oats, *Avena sativa*, 58042-58049, 58155-58189.
Avena sterilis, 58033.
Onion, *Allium cepa*, 58154.
Oryza sativa, 58488.

Palm, *Hedyscepe canterburyana*, 58369.

Hyphaene crinita, 58028.
Panicum miliaceum, 58251-58272.
Paulownia fortunei, 58376.
Pea, *Pisum sativum*, 58280-58283, 58422.
Peach, *Amygdalus persica*, 58383.

Pennisetum setosum, 58037.
Pentagonia physalodes, 58130.
Pepper, red, *Capsicum annuum*, 58091.
Perilla, *Perilla frutescens*, 58273.

ocymoides. See *P. frutescens*.

Persea americana, 58365, 58444.
gratissima. See *P. americana*.

Peucedanum sp., 58428.

Phaseolus angularis, 58274.
coccineus, 58275.
vulgaris, 58276, 58277, 58363, 58386-58388, 58429, 58430.

Phleum pratense, 58278, 58279, 58380, 58381.

Pine, *Pinus armandi*, 58367.

Pinus armandi, 58367.

Pisum sativum, 58280-58283, 58422.

Primula bulleyana, 58398.

dryadifolia, 58426.

poissoni, 58399.

pulchella, 58400.

secundiflora, 58375.

sikkimensis, 58368.

sino-denticulata, 58405.

sinopurpurea, 58401.

vinciflora, 58402.

Proso, *Panicum miliaceum*, 58251-58272.

Prunus sp., 58040.

persica. See *Amygdalus persica*.

Radish, *Raphanus sativus*, 58284.

Raphanus sativus, 58284.

Rice, *Oryza sativa*, 58438.

Roquette, *Eruca sativa*, 58414.

Rumex alpinus, 58431.

Rye, *Secale cereale*, 58071, 58285-58311.

Saccharum officinarum, 58034.

Sandoricum indicum. See *S. koetjape*.
koetjape, 58445.

Santol, *Sandoricum koetjape*, 58445.

Schizocentron elegans, 58366.

Secale cereale, 58071, 58285-58311.

Sesbania tomentosa. See *Agati tomentosa*.

Soja max, 58312-58326, 58439.

Sorghum vulgare. See *Holcus sorghum*.

Sorrel, *Rumex alpinus*, 58431.

Soy bean, *Soja max*, 58312-58326, 58439.

Squash, *Cucurbita maxima*, 58195.

Strawberry, Chilean, *Fragaria chiloensis*, 58024.

Strychnos suberosa, 58032.

Sugar cane, *Saccharum officinarum*, 58034.

Sunflower, *Helianthus annuus*, 58221-58223.

Timothy, *Phleum pratense*, 58278, 58279, 58380, 58381.

Tobacco, *Nicotiana tabacum*, 58029, 58437.

Tomato, *Lycopersicon esculentum*, 58249, 58250, 58372.

Trichilia emetica, 58128.

Trifolium incarnatum, 58041.

Trigonella foenum-graecum, 58072.

Triticum aestivum, 58073-58085, 58327-58342, 58423, 58440.

vulgare. See *T. aestivum*.

Trollius sp., 58427.

Vetch, bitter, *Lathyrus sativus*, 58069, 58419.

Vicia faba, 58424.

Wheat, common, *Triticum aestivum*, 58073-58085, 58327-58342, 58423, 58440.

Water lily, *Nymphaea* sp., 58404.

Zea mays, 58343-58357, 58364, 58371, 58441.

UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 78



Washington, D. C.

Issued November, 1926

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1924 (S. P. I. NOS. 58455 TO 58930)

CONTENTS

	Page
Introductory statement.....	1
Inventory.....	5
Index of common and scientific names.....	32

INTRODUCTORY STATEMENT

IT IS ALWAYS a difficult matter to select from the large quantity of plant material listed in one of these inventories the introductions which claim special attention. A glance at the general character of the material introduced and the sources from which it has been obtained, however, may assist experimenters to form a clearer idea of the department's plant-introduction activities than will be obtained from a perusal of the vast amount of detailed information which must necessarily accompany a record of this sort.

The plants listed in this, the seventy-eighth Inventory of Seeds and Plants Imported, have been obtained through the two usual channels of plant introduction—the agricultural explorers of the bureau and correspondents abroad.

Few agricultural explorations of recent years have penetrated into such remote regions and have brought to light more promising material than that headed by H. V. Harlan, of the Office of Cereal Investigations, Bureau of Plant Industry. In the present inventory are listed a number of his Abyssinian introductions, obtained at the commencement of his stay in that country. Though Doctor Harlan's principal object was to collect rare types of barley for use in breeding work, his shipments include many other crop plants, such as teff (*Eragrostis abyssinica*, No. 58736), sorghum, wheat, cotton, beans, peas, and flax.

Joseph F. Rock, whose explorations in Yunnan, China, were commenced under the auspices of this office, but later transferred to the National Geographic Society, has continued to send in promising ornamental trees, shrubs, and herbaceous perennials from a region where climatic conditions much resemble those of the northern Pacific coast region of the United States. Among Mr. Rock's introductions which are listed in the present inventory are species of *Abies*, *Picea*, *Tsuga*, and other coniferous trees; rhododendrons, cotoneasters, and other ornamental shrubs; and such herbaceous plants as *Primula* and *Lilium*. Concerning one of the hemlocks (*Tsuga* sp., No. 58510) which he found on the Likiang Snow Range, northern Yunnan, at 10,000 feet altitude, he writes that the tree becomes 80 feet or more high, with a trunk 5 feet in diameter, and he considers it to be the finest of all the species of *Tsuga*.

The department's correspondents abroad, with their customary generosity, have contributed many promising lots of material. R. C. Ching, a young Chinese botanist, who accompanied a recent scientific expedition into Kansu Province, northwestern China, has sent a large collection of rare plants from that

region (Nos. 58518 to 58548). These include wild species of *Pyrus*, *Malus*, and *Prunus*, possibly valuable as stock plants on which to graft some of the cultivated varieties; also cotoneasters, species of *Elaeagnus*, *Berberis*, *Euonymus*, and other ornamental shrubs; and local strains of wheat and barley.

Vicary Gibbs, whose fame as an amateur exhibitor of rare plants is well known throughout the British Isles, has sent from his Aldenham House Gardens 21 species of ornamental shrubs (Nos. 58603 to 58623), many of them sufficiently hardy, in all probability, to permit their cultivation over wide areas in the United States. From the Royal Botanic Gardens, Kew, has come a collection of wild relatives of the onion, for the use of department plant breeders (*Allium* spp., Nos. 58868 to 58886); a similar collection (*Allium* spp., Nos. 58675 to 58691) was presented by the director of the botanic garden at Nancy, France. Prof. D. Bois, of Paris, has forwarded a large collection of leguminous plants and grasses, also for the use of department specialists (Nos. 58692 to 58718). G. H. Cave, curator of the Lloyd Botanic Garden at Darjiling, India, has again contributed seeds of numerous ornamental trees and shrubs of the Himalayan region (Nos. 58901 to 58930).

The Barouni olive (*Olea europaea*) has been reintroduced as No. 58661. Because of its large size and excellent quality for ripe pickling, this variety is meeting with favor among the olive growers of California. It deserves further consideration by commercial growers and also by plant breeders.

The ravages of chestnut blight in the eastern and southern United States and the need of finding a resistant species to replace the rapidly disappearing American chestnut have led to the introduction of numerous strains of the Chinese hairy chestnut, *Castanea mollissima* (Nos. 58602, 58659, 58719 to 58724).

Several new varieties of fig (*Ficus carica*, Nos. 58663 to 58668) have been introduced to enlarge the collection in California, where much attention has been given in past years to procuring the world's best varieties. In connection with the department's plan to test species and varieties of rubber-yielding plants for the purpose of ascertaining if any are suited for commercial cultivation in the southernmost parts of this country and in the American Tropics, *Ecdysanthera utilis* (No. 58496) has been obtained through the courtesy of the director of forestry of the island of Taiwan, and several species of *Landolphia* (*L. owariensis*, No. 58517, *L. droogmansiana*, No. 58591, and *L. kirkii delagoensis*, No. 58899) have been obtained from Africa, the first two contributed by Frère Gillet, of Kisantu, Belgian Congo, and the last named from I. B. Pole Evans, chief of the division of botany at Pretoria, Transvaal. From New South Wales has been sent the so-called wild plum (*Sideroxylon australe*, No. 58478), which bears fruits containing rich, milky juice which may be a possible source of rubber.

Several valuable strains of wheat have been obtained for the use of American plant breeders, notably Doctor Akerman's varieties from Svalof, Sweden (*Triticum aestivum*, Nos. 58564 to 58567) and Professor Stapledon's collection (*T. aestivum*, Nos. 58559 to 58563) from Aberystwyth, Wales.

Crotalaria anagyroides (No. 58466), sent from the general experiment station at Buitenzorg, Java, should be tried in Florida and other Southern States for green manure. Its leafiness makes it especially desirable, and it is probably hardier than some of the other *Crotalaria*s.

Paspalum notatum (No. 58644), a Brazilian forage grass, has been previously introduced under Nos. 37996, 51121, 51262, and 54904. It is proving valuable for pasturage in the South and, on account of its hardness and sod-forming qualities, should receive increased attention.

The department's efforts to increase the cultivation of the true yams (*Dioscorea* spp.) in the Gulf States are yielding good results. In order to have the best varieties available, numerous introductions have been made in the past. Two varieties (*D. cayenensis*, No. 58625, and *D. rotundata*, No. 58626) from Porto Rico have been reintroduced and are listed in this inventory.

Citrus growers in Florida and California will be glad to try Sir Percy Fitzpatrick's new grapefruit, the Cecily (*Citrus grandis*, No. 58457), a practically seedless variety which originated in South Africa as a sport from Walters, the well-known American variety. A tree of *C. ichangensis*, established at New Orleans from an early introduction, is serving as a source of propagating material for the use of plant breeders who are attempting to develop harder varieties of citrus fruits, since this is considered one of the hardiest species of *Citrus* known. Seeds from this tree have now been obtained (No. 58480) for further use by citrus breeders.

A Mexican relative of the iris (*Tigridia pavonia*, No. 58573) presented by Mrs. Zelia Nuttall, of Coyoacan, should appeal to those who care for delicate flowers; although the latter are somewhat short lived, in mass planting the effect of successive flowering is very striking.

Special attention should be directed to *Populus maximowiczii* (No. 58483), a hardy and stately tree from Manchuria, which is proving of great value in the colder and drier areas of the United States where poplars are particularly desirable. The distinctive rugose character of its foliage, which appears more than a week before that of other trees, makes it unique among poplars. Budwood has been presented by A. D. Woeikoff, director of the experiment farm at Echo, Manchuria.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,
Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., February 19, 1926.

INVENTORY ¹

58455. JUGLANS REGIA L. Juglanda- ceæ. Walnut.

From Spain. Seeds presented by Howard Spence, The Red House, Ainsdale, Southport, England. Received January 18, 1924.

These walnuts are from Huelva, Spain, and are supposed to represent the best quality of that region. (*Spence*.)

58456. MANGIFERA INDICA L. Ana- cardiaceæ. Mango.

From Nueva Gerona, Isle of Pines, West Indies. Budwood presented by W. H. Snider. Received February 14, 1924.

Bacas. The fruits of this variety weigh about a pound, and the skin is dark, with a lighter cheek, tough and free from blemishes. The flesh is firm, free from fiber, and of rich, pleasing flavor. The seed is of medium size and flat. The tree is not an unusually heavy bearer. (*Snider*.)

Introduced for trial in the warmest parts of the United States.

58457. CITRUS GRANDIS (L.) Osbeck. Rutaceæ.

From Amanzi, Uitenhage, Cape of Good Hope. Plants presented by Alan Fitzpatrick, Amanzi, at the request of Sir Percy Fitzpatrick, London, England. Received February 12, 1924.

Cecily. This variety originated at Amanzi, as a sport or mutation from the Walters grapefruit. The latter originated in Florida, where it was formerly one of the principal commercial sorts.

Sir Percy in his letter of December 20, 1923, describes this mutant as differing from its parent in being "practically devoid of seeds." If it retains this characteristic in the United States, it will be of much interest to test it alongside our own seedless variety, the Marsh. The transplantation of the Walters grapefruit to South Africa, the development there of a form superior in being nearly seedless, and its return to the United States in this improved condition forms an interesting tale. In

regard to a name for this mutant, Sir Percy writes: "Among ourselves we call it 'Cecily,' after my daughter who had the good fortune to discover it."

58458. TRIFOLIUM PRATENSE L. Fa- baceæ. Red clover.

From Lausanne, Switzerland. Seeds purchased from G. Martinet, chef, Etablissement Fédéral d'Essais et de Contrôle de Semences. Received March 12, 1924.

(No. 1171. A good Mont-Calme selection, derived from a perpetual Berne clover from Ruti (Mattenklee). (*Martinet*.)

58459 and 58460.

From Port of Spain, Trinidad, British West Indies. Seeds presented by W. G. Freeman, director of agriculture. Received January 28, 1924.

58459. BARRINGTONIA ASIATICA (L.) Kurz. Lecy- thidaceæ.

A large, handsome East Indian tree with thick, leathery, shining bright-green leaves and very conspicuous flowers with four white petals and numerous crimson-tipped stamens, resembling a brush. The fruit is large and is the shape of a 4-sided pyramid; it is smooth on the outside and contains one seed. The tree forms extensive forests along the shores of some of the Pacific islands. In the Moluccas an illuminating oil is extracted from the seeds, and the dry fruits are gathered by the natives and used as floats for their fish nets. (Adapted from *Rock, The Ornamental Trees of Hawaii*, p. 663.)

For previous introduction, see S. P. I. No. 54963.

58460. COLVILLEA RACEMOSA Boj. Cæsalpini- aceæ.

A leguminous tree 40 or 50 feet high, native to Mauritius and Madagascar, with the general aspect of *Poinciana regia* but with a thicker trunk, reddish gray bark, and more ample foliage. In early spring it bears large, erect racemes of bright-scarlet flowers which make the tree a very showy ornamental.

It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or related genera. The responsibility for the specific identifications, therefore, must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

58461. AMARANTHUS GANGETICUS L.
Amaranthaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 13, 1924.

With its multicolored tops, ranging from pale yellow to dark red in various shades, this variety, known here as haum, is one of the most gorgeous ornamental plants I have ever seen. It is rare in Manila, but it is common in Cebu, where the tender leaves are eaten like spinach. It ought to do well in Florida and possibly in southern California. (Wester.)

For previous introduction, see S. P. I. No. 53896.

58462. RHUS CORIARIA L. Anacardiaceæ.

From Palermo, Italy. Seeds presented through Edward I. Nathan, American consul. Received March 22, 1923. Numbered January, 1924.

Immense groves of this species are cultivated in Sicily for the purpose of extracting tannin from the leaves. The product is light and free from discolorations and therefore commands a high price in the world's markets. Large quantities of sumac extract are imported annually into the United States, since it is difficult to obtain from American sumacs extracts which are as clear and as light colored as the Sicilian product. The establishment of commercial plantings of *Rhus coriaria* in this country seems worthy of serious consideration.

58463. BERBERIS REPLICATA W. W. Smith. Berberidaceæ. **Barberry.**

From Wisley, Ripley, Surrey, England. Plants presented by Fred J. Chittenden, director, Royal Horticultural Society Gardens. Received February 16, 1924.

An evergreen barberry originally collected by George Forrest in thickets on the Shweli-Salwin Divide, southwestern China, at an altitude of 11,000 feet. The rather small leaves have recurved margins and are gray beneath. It is an early and profusely flowering species, bearing its blossoms all along the branches in a very attractive fashion, and the deep-crimson berries make it handsome in the fruiting stage. It appears to be quite hardy in England. (Adapted from *The Garden*, vol. 87, p. 186.)

58464. MALUS SYLVESTRIS Mill. (*Pyrus malus* L.). Malaceæ. **Apple.**

From Simla Hills, Punjab, India. Scions presented by S. E. Stokes. Received February 16, 1924.

A russet apple of good size and excellent flavor, greatly appreciated in Simla by the English. The tree, which is a strong grower and heavy cropper, ripens its fruit in October, and we have often been able to keep it until April or May. While in storage the fruit turns to a golden yellow. At the altitude of 7,000 feet in Kotgarh, where this tree grows, many other temperate crops are also grown, such as potatoes, corn, and barley, and such fruits as cherries, plums, and apricots. (Stokes.)

58465. DIOSPYROS DECANDRA Lour.
Diospyraceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received February 13, 1924.

A wild persimmon from Cochin China, whose yellow, edible, sweet fruits, about an inch in diameter, are sold in the native markets of the small towns. The tree is large, with spreading branches, and produces excellent heavy timber, which is white marked with black veins; the heartwood is sometimes black.

58466. CROTALARIA ANAGYROIDES H. B. K. Fabaceæ.

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, general experiment station, Department of Agriculture, at the request of Charles L. Hoover, American consul, Batavia, Java. Received February 14, 1924.

The crotalarias are tropical leguminous plants, of value for cover crops and green manure, for which purposes they are used in the same manner as cowpeas and velvet beans. Doctor Cramer, in his letter of transmittal, writes that *Crotalaria anagyroides* has proved more desirable than other species in Java, mainly because it produces a larger amount of foliage and the plants remain erect. He says: "It is especially satisfactory at high altitudes and is in such great demand for the tea plantations in the higher mountains that we have to limit our seed distributions to small quantities."

Though cultivated in Java, this species is not native to that part of the world. It is widely distributed in tropical America, where it occurs, according to Grisebach (*Flora of the West Indies*), from Mexico to Peru, and in the West Indies. The same authority states that it is somewhat shrubby in character, with erect puberulous stems and leaves composed of three ovate-lanceolate leaflets.

58467. SPATHODEA NILOTICA Seem.
Bignoniaceæ.

From Entebbe, Uganda. Seeds presented by the chief forestry officer, forestry department. Received February 14, 1924.

Spathodea campanulata is proving to be an ornamental tree of unusual value for southern Florida. For this reason the arrival of another member of this genus is a matter of considerable interest. *S. nilotica*, which is native in the upper Nile Valley and the Belgian Congo, is a bushy tree reaching about 20 feet in height. The leaves, which are opposite and composed of 9 to 15 leathery leaflets, are covered beneath with dense, short hairs. The scarlet flowers, produced in short, compact terminal clusters, are said to resemble closely those of *S. campanulata*, which means that they are strikingly beautiful. The behavior of this tree in southern Florida will be watched with interest.

For previous introduction, see S. P. I. No. 47502.

58468 to 58470.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 18, 1924. Notes by Mr. Rock.

58468. ABIES FORRESTII Craib. Pinaceæ. **Fir.**

(No. 10673. December, 1923.) A handsome tree 70 to 80 feet in height with a trunk 2 feet or more in diameter, common on moist mountain meadows and steep limestone slopes of the Likiang Snow Range at altitudes ranging from 10,000 to 13,500 feet. The needles are white beneath, and the cones are purplish blue to black.

58469. ABIES sp. Pinaceæ. **Fir.**

(No. 10887. December, 1923.) A tree 60 to 80 feet high with a trunk 2 to 3 feet in diameter, found along meadows below Ladsakodjo, on the eastern slopes of the Likiang Snow Range, at an altitude of about 13,000 feet. The needles are silvery beneath, the large, ovoid cones are bluish black, and the scales have a central pointed spur which is absent in *Abies forrestii*.

58470. PICEA sp. Pinaceæ. **Spruce.**

(No. 10888. December, 1923.) A tree 60 to 80 feet with long drooping branches, found back of Nguluke, growing wild around the village temple, at an altitude of 9,600 feet in the Likiang Snow Range. The needles are short, the cones are larger, and the scales broader than No. 10890 [S. P. I. No. 58498].

58471. SOLANUM DEMISSUM × TUBEROSUM. Solanaceæ.

From Wolverhampton, England. Tubers presented by F. W. Keay, Wolverhampton, through William Stuart, Bureau of Plant Industry. Received February 2, 1924.

A cross between *Solanum demissum* and the Paterson's Victoria variety of the potato.

For use in potato-breeding experiments.

58472. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Valence, Rhone, France. Seeds purchased from Tézier Frères. Received March 12, 1924.

Locally grown clover from Nîmes, Gard. Introduced for testing by clover specialists.

58473. VIBURNUM HANCEANUM Maxim. Caprifoliaceæ.

From Ottawa, Canada. Seeds presented by J. Adams, botanist, Central Experimental Farm, Department of Agriculture. Received February 18, 1924.

A hardy, bushy, deciduous shrub from southeastern China, where it becomes 6 to 10 feet in height. The branches are mostly horizontal, and the roundish, slightly toothed, sharp-pointed leaves are dull dark green above and pale grayish beneath. The inflorescence consists of a flat umbel 2 to 4 inches across; the center is filled with small, perfect, inconspicuous flowers, surrounded by a few large white imperfect flowers about an inch wide. The roundish egg-shaped fruits are at first coral red and finally blue-black.

Introduced for horticulturists engaged in small-fruit breeding.

58474. AMYGDALUS COMMUNIS × PERSICA. Amygdalaceæ. Peach-almond hybrid.

From Benenden, Kent, England. Budwood presented by Collingwood Ingram. Received February 20, 1924.

This "peach-almond" hybrid is very vigorous. The original scion came from Quinta de Seixo in the upper Douro District, Portugal. The fruit appears to be intermediate in characters between the peach and the almond. (*Ingram.*)

58475. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Wellington, New Zealand. Seeds presented by A. L. Cockayne, director of the fields division, Department of Agriculture. Received February 20, 1924.

"*Runciman's* red clover. This has been thoroughly tested and may be regarded as the only true perennial strain of red clover in New Zealand." (*New Zealand Journal of Agriculture*, vol. 22, p. 290.)

Introduced for testing by clover specialists.

58476 and 58477. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Copenhagen, Denmark. Seeds purchased from L. R. M. Larsen, Danish Royal Agricultural Society. Received February 23, 1924.

Both of these are Danish strains which in this country have given considerably greater yields than foreign seeds. (*Larsen.*)

Introduced for agronomists engaged in clover breeding.

58476. *Tystofte* No. 40, an early strain.

58477. *Hersnap*, a late strain.

58478. SIDEROXYLON AUSTRALE (R. Br.) Benth. and Hook. Sapotaceæ.

From Sydney, New South Wales. Seeds presented by J. H. Maiden, director, botanic gardens. Received February 12, 1924.

A tree, sometimes becoming of considerable size, from southeastern Australia, where it is called "wild plum" or "black apple" because of the fruit. The latter is the size of a small apple; the rich, milky juice resembles cream in taste, but the flesh is coarse and insipid. The pale-yellow wood is close grained, handsomely veined, and suitable for cabinetwork, although it requires careful seasoning. This species is now introduced for testing the sap as a possible source of rubber.

For previous introduction, see S. P. I. No. 44072.

58479. COLOCASIA ESCULENTA (L.) Schott. Araceæ. Taro.

From Canton, China. Tubers presented by F. A. McClure, Canton Christian College. Received May 22, 1922. Numbered January, 1924.

Pan Long Oo. Introduced for cultural and comparison tests.

58480. CITRUS ICHANGENSIS Swingle. Rutaceæ.

From New Orleans, La. Seeds presented by E. Foster. Received February 19, 1924.

These seeds are from a tree sent to New Orleans from the Arnold Arboretum, Jamaica Plain, Mass. The trees at the arboretum were raised from seeds collected in China several years ago from trees which appeared to show unusual frost resistance. The general character of the fruit is much like the bitter Seville orange used in the manufacture of Scotch marmalade, being very rough, with a thick, reddish skin. It is not very juicy, and the seeds are large. The species, because of its unusual hardness, will be useful for breeding purposes. (*Foster.*)

A spiny shrub or small tree, 5 to 15 feet high, native to central and southwestern China. It differs from other members of the genus chiefly in its very large, thick seeds and its slender leaves, which are four to six times longer than broad. It is also one of the hardiest species of Citrus known.

58481. AILANTHUS VILMORINIANA Dode. Simaroubaceæ.

From Paris, France. Plant purchased from Vilmorin-Andrieux & Co. Received February 26, 1924.

Although this species is closely related to the tree of heaven (*A. altissima*), well known in many parts of the United States, it is distinguished by the numerous soft spines on the young branchlets and by the very downy leaflets. The main leaf-stalk is often rich red and occasionally spiny like the leaflets. The inflorescence is sometimes a foot or more across, and the samara, or key, is 2 inches long. The tree is native to Szechwan, western China.

58482. RUMEX ABYSSINICUS Jacq. Polygonaceæ.

From Java. Seeds presented by W. A. Orton, Bureau of Plant Industry. Received February 23, 1924.

As a source of greens during the hot summer months, the Abyssinian Rumex appears to have merit. Seeds may be sown in the greenhouse or hotbed in early spring and the plants set out as soon as the soil can be worked. The plants grow 7 or 8 feet in height and continue to yield greens until cut down by frost in late autumn. The leaves are cooked and served in the same manner as spinach, but care must be taken to change the water, in cooking, to eliminate excessive acidity.

For previous introduction, see S. P. I. No. 56486.

58483 to 58487.

From Echo, Kirin Province, Manchuria. Budwood presented by A. D. Woeikoff, director, experimental farm. Received March 3, 1924.

58483. *POPULUS MAXIMOWICZII* A. Henry. Salicaceæ. Poplar.

A handsome, stately, Manchurian poplar, which is said to reach enormous size in its native country. According to John Dunbar, assistant superintendent, department of parks, Rochester, N. Y., it thrives on dry gravelly soil, where Norway spruce and white ash fail to survive, and is one of the few large deciduous exotic trees which can be recommended for general planting in the Northern States. It is a rapid grower, increasing in height 3 to 5 feet a year for the first eight years, and has rugose leaves resembling those of *Rosa rugosa*. The foliage appears about 10 days before that of other trees, and in Manchuria it remains green throughout the summer.

For previous introduction, see S. P. I. No. 51877.

58484. *POPULUS SUAVEOLENS PRZEWALSKII* (Maxim.) C. Schneid. Salicaceæ. Poplar.

This is a rather common tree in the towns and villages throughout northern China; it is easily distinguished by its close, compact habit. (Woeikoff.)

For hot, dry climates this poplar is said to be especially valuable; although it is comparatively slow growing, eventually it becomes a large tree and it also has distinct merit as an ornamental. The rather small, oval leaves are prominently whitened beneath.

58485 to 58487. *SALIX* spp. Salicaceæ. Willow.

58485. *SALIX RORIDA* Lacksch.

This is a giant among willows. In the river valleys of Manchuria it reaches a height of 150 feet, with an enormous circumference. (Woeikoff.)

58486. *SALIX* sp.

A hybrid of *Salix rorida*. (Woeikoff.)

58487. *SALIX* sp.

A small willow up to 30 feet in height, growing on rocky slopes. (Woeikoff.)

58488 to 58495.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received February 1, 1924.

58488. *CORYLUS FEROX* Wall. Betulaceæ. Hazel.

A wild hazel from Sikkim, India, whose small nuts, closely resembling the common hazelnut in taste, are much prized by the natives. The tree, 20 feet in height, grows at altitudes of 8,000 to 10,000 feet. The wood is pinkish white, even grained, and moderately hard.

For previous introduction, see S. P. I. No. 49626.

58489. *FRAGARIA DALTONIANA* J. Gay. Rosaceæ. Himalayan strawberry.

A wild relative of the cultivated strawberries which comes from alpine pastures of the Sikkim Himalayas at altitudes of 10,000 to 15,000 feet. It is a stoloniferous perennial with solitary white flowers and bright-scarlet, insipid fruits an inch long and half as broad.

Introduced for testing by strawberry specialists.

For previous introduction, see S. P. I. No. 52679.

58490. *LILIUM THOMSONIANUM* (D. Don.) Lindl. (*L. roseum* Wall.). Liliaceæ. Lily.

A lily of unusual appearance, suggesting in habit *Fritillaria*, *Ornithogalum*, and *Hosta*. The erect stem is a foot and a half high, and the nar-

58488 to 58495—Continued.

row, grasslike leaves are mostly crowded at the base of the stem. The pale mauve or rosy bell-shaped drooping flowers, with deep-purple anthers, are an inch and a half long and are in a terminal raceme containing 8 or 10 flowers. The species is native to mild-wintered regions of the Himalayas from western China to northern India.

58491. *MALUS SIKKIMENSIS* (Hook. f.) Koehne (*Pyrus sikkimensis* Hook. f.). Malaceæ.

The Sikkim crab is a small tree, rather bushy in habit, which grows wild in the interior of Sikkim, India, at altitudes up to 10,000 feet. The narrowly oval leaves are very woolly beneath, and the white flowers, rosy in the bud, are about an inch across and are borne very freely in 4 to 8 flowered clusters. The pear-shaped fruits are dark red with paler dots and are about half an inch wide. This species is distinguished from the Siberian crab (*Malus baccata*) by its low, spreading habit, excessive development of spurs on the stems, the more woolly leaves, and the smaller fruits.

For previous introduction, see S. P. I. No. 52684.

58492. *PANAX PSEUDOGINSENG* Wall. (*Aralia pseudoginseng* Benth.). Araliaceæ.

An herbaceous perennial from the subtropical mountainous regions of Nepal. The tuberlike rootstock is mucilaginous and slightly aromatic, and the erect, purplish stem bears three or four palmate radical leaves and a number of roughly hairy upper leaves. The small, white flowers, in umbellate heads, are followed by globose berries which are half black, half red, or entirely red. The above note is taken from Wallich, *Plantæ Asiaticæ Rariores*, vol. 2, p. 30.

For previous introduction, see S. P. I. No. 49644.

58493. *PRUNUS RUFA* Hook. f. Amygdalaceæ.

A Himalayan wild cherry tree 15 to 20 feet high, with small pink flowers and red, ellipsoid, fleshy fruits.

Introduced for pomologists engaged in the breeding of stone fruits.

58494. *RIBES GRIFFITHII* Hook. f. and Thoms. Grossulariaceæ.

A wild currant from the subtropical Himalayas, where it grows at altitudes of 10,000 to 13,000 feet, forming an erect shrub about 8 feet in height. The leaves are broadly heart-shaped and 5-lobed, and the red, sour berries are in long, pendent clusters about 9 inches in length.

Introduced for pomologists engaged in small-fruit breeding.

For previous introduction, see S. P. I. No. 49651.

58495. *RUBUS CALYCINUS* Wall. Rosaceæ.

A wild raspberry from the temperate slopes of the Himalayas and of the Khasi Hills, India, where it grows as a creeping herbaceous perennial with kidney-shaped leaves and small scarlet fruits containing normally but a few drupelets.

Introduced for pomologists engaged in small-fruit breeding.

For previous introduction, see S. P. I. No. 41675.

58496. *ECDYSANTHERA UTILIS* Hay. and Kaw. Apocynaceæ.

From Taihoku, Taiwan, Japan. Seeds presented by R. Kanehira, director, experimental station of forestry. Received March 19, 1924.

This plant, a climbing shrub of northern Taiwan, does not appear to be very well known outside of its native habitat. If its value may be judged by the results of an analysis made at the Imperial Institute, London, of a sample of rubber from that region, it would appear to be a promising acqui-

tion. Not only on account of its economic value is this true but also because the climatic conditions of Taiwan more closely resemble those of southern Florida than do those of the native countries of many other of the better known rubber plants now being assembled for experimental purposes at the Chapman Field Plant Introduction Garden in southern Florida.

Analyses of sample from Taiwan (per cent): Moisture, 1.3; caoutchouc, 85.3; resin, 5.0; proteid, 2.1; insoluble matter, 6.3. (*Alfred Keys, Bureau of Plant Industry.*)

58497. COFFEA LIBERICA Bull. Rubiaceæ.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, bureau of agriculture. Received March 19, 1924.

Introduced for horticulturists engaged in coffee-growing experiments.

For previous introduction, see S. P. I. No. 53460.

58498 to 58511.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 27, 1924. Notes by Mr. Rock.

58498. PICEA sp. Pinaceæ. Spruce.

(No. 10890. Mahoangputze. December, 1923.) A handsome tree 50 to 70 feet, sometimes taller, found in rich, black soil in moist meadowlands on the eastern and western slopes of the Likiang Snow Range, at an altitude of 12,000 feet. This species is less graceful and not so slender as *Picea likiangensis*; it has brown, ovoid cones.

58499. ABIES sp. Pinaceæ. Fir.

(No. 10886. December, 1923.) A fine tree 60 feet or more in height, with a trunk 2 or 3 feet in diameter, which grows along stream beds on the eastern slopes of the Likiang Snow Range at an altitude of about 11,000 feet. The needles are not silvery beneath, and the greenish white cones are erect.

58500. KETELEERIA sp. Pinaceæ.

(No. 10892. Sungkwe. December, 1923.) A pale-green tree 30 to 40 feet high, with stiff branches and large needles. The straw-colored cones are 10 to 20 centimeters (4 to 8 inches) long. This species grows in dry regions south of Likiang at about 10,000 feet altitude.

58501. PICEA LIKIANGENSIS (Franch.) E. Pritz. Pinaceæ. Spruce.

(No. 10889. Zinako. December, 1923.) A tree 60 to 80 feet tall, with long, slender, drooping, very graceful branches and brown oblong cones, found in moist meadowland on the western slopes of the Likiang Snow Range at 12,000 feet altitude. Above this altitude it is replaced by *Abies*, while *Tsuga* occurs lower down.

58502. PICEA sp. Pinaceæ. Spruce.

(No. 10888. December, 1923.) A tree 60 to 80 feet tall, with long, drooping branches, found back of Nguluke, growing wild around the village temple, at an altitude of 9,600 feet, Likiang Snow Range. The needles are short, the cones are larger, and the scales broader than No. 10890 [S. P. I. No. 58498].

For previous introduction, see S. P. I. No. 58470.

58503. PRIMULA sp. Primulaceæ. Primrose.

(Mount Kenichunpu. October, 1923.) An herbaceous plant about 1 foot high, from alpine meadows of the Salwin-Irrawaddy Divide, Tibetan border, at about 13,000 feet altitude. The leaves are elliptical and the flowers small and yellow.

58498 to 58511—Continued.

58504. PYRUS sp. Malaceæ. Pear.

(Nos. 8946 and 11347. Litiping. November, 1923.) A very handsome tree 15 feet high, from alpine meadows, at an altitude of 12,000 feet. It has small, elliptic-oval, acute, crenate, pubescent leaves, large umbels of white flowers, and red fruits the size of a pea.

58505 to 58509. RHODODENDRON spp. Ericaceæ.

58505. RHODODENDRON OLEIFOLIUM Franch.

(No. 11219. Chanyutang. October, 1923.) A pink-flowered, shrubby species 1 or 2 feet high, which grows in the Salwin Valley at about 7,000 feet altitude. The narrowly elliptical, glaucous leaves are punctate beneath.

58506. RHODODENDRON sp.

(No. 11228. Mount Kenichunpu. October, 1923.) A red-flowered, shrubby species over 2 feet high, from the Salwin-Irrawaddy Divide, Tibetan border, at an altitude of 13,000 feet. The elliptical, dark pigeon-gray leaves are punctate beneath.

58507. RHODODENDRON sp.

(No. 11229. Mount Kenichunpu. October, 1923.) A very curious creeping plant which grows on rocky slopes, Salwin-Irrawaddy Divide, at about 11,000 feet altitude. The leaves are very small, glossy, and dark green, and the flowers are white with a pinkish tinge.

58508. RHODODENDRON SINO-GRANDE Balf. f. and Smith.

(No. 11239. Mount Kenichunpu. October, 1923.) A tree, 25 to 30 feet in height, found in a fir forest on the Salwin-Irrawaddy Divide, Tibetan border, at an altitude of 13,000 feet. The obovate-oblong leaves, silvery beneath, are 1 or 2 feet long, and the very large, cream-colored flowers are in huge corymbs.

58509. RHODODENDRON sp.

(No. 11241. Sila Pass. October and November, 1923.) A shrub about 2 feet high, found among rocks on the Salwin-Mekong Divide at an altitude of 13,000 feet. The oval, glabrous leaves are glaucous beneath, and the flowers are reddish pink.

58510. TSUGA sp. Pinaceæ. Hemlock.

(No. 10891. December, 1923.) A tree 80 feet or more in height, with a trunk about 5 feet in diameter and spreading branches, which grows at an altitude of 10,000 feet on the eastern slopes of the Likiang Snow Range, in dense forests where there is heavy rainfall. The needles are dark green, and the rather large ovoid cones are pale brown. I consider this the finest of all *Tsugas*.

58511. GAULTHERIA sp. Ericaceæ.

(No. 11230. Mount Kenichunpu. October, 1923.) A shrub 2 feet high which grows on the Salwin-Irrawaddy Divide, Tibetan border, at an altitude of 11,000 feet. It has elliptical, serrate leaves and globose, rich-blue berries.

58512. PYRUS sp. Malaceæ. Pear.

From Simla Hills, Punjab, India. Seeds presented by S. E. Stokes. Received February 26, 1924.

This Himalayan wild pear is called "shegal" or "kanth" by the natives. The fruit is bronze colored, perfectly round, and the size of a large cherry. The tree grows extensively in the mountains at altitudes of 4,000 to 8,000 feet. (*Stokes.*)

Introduced for testing as a stock for our cultivated apples and pears.

58513. TELOPEA SPECIOSISSIMA (J. E. Smith) R. Br. Proteaceæ. Waratah.

From Victoria, Australia. Seeds presented by William Laidlaw, acting director, Melbourne Botanic Gardens. Received February 28, 1924.

A very striking, evergreen Australian shrub, about 8 feet high, with irregularly toothed, dark-green leaves 6 inches long, and deep crimson, tubular flowers about an inch long, borne in a dense, globular head surrounded by blood-red bracts 2 or 3 inches in length. The waratah, as this shrub is known in its native land, has come to be recognized as the State flower of New South Wales.

58514 to 58516. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Bucharest, Rumania. Seeds presented by Dr. D. Andronescu, directia fermelor, Ministerul Agriculturii, through Ely E. Palmer, American consul. Received February 28, 1924. Notes by Doctor Andronescu.

Introduced for testing by clover specialists.

These seeds came from the Government farms in Transylvania, the best clover region in the country.

58514. From Sercaia, District of Fagaras.

58515. From Comana, District of Fagaras.

58516. From Boiu, District of Tarnava Mica.

58517. LANDOLPHIA OWARIENSIS Beauv. Apocynaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received February 28, 1924.

An enormous tropical creeper, found throughout the Belgian Congo, which attains a length of over 300 feet and a stem diameter of about 15 inches. The wedge-shaped elliptic leaves are 2 to 4 inches long. While the rubber-producing latex obtained from this species is often of good quality, frequently individual specimens yield latex which is practically useless. (Adapted from *Wildeman and Gentil, Lianes Caoutchoutifères du Congo*.)

Introduced for testing as a source of rubber.

58518 to 58548.

From Kansu, China. Seeds presented by R. C. Ching. Received February 16, 1924.

These seeds were collected on a botanical expedition into Kansu, northwestern China. (*Ching*.)

58518. *ACER* sp. Aceraceæ. Maple.

No. 1009.

58519 to 58522. *BERBERIS* spp. Berberidaceæ. Barberry.

58519. *BERBERIS* sp.

No. 86.

58520. *BERBERIS* sp.

No. 961.

58521. *BERBERIS* sp.

No. 1029.

58522. *BERBERIS* sp.

58523. *CORYLUS* sp. Betulaceæ. Hazel.

No. 1023.

58524. *COTONEASTER* sp. Malaceæ.

No. 52.

58525. *COTONEASTER* sp. Malaceæ.

No. 1004.

58526. *CRATAEGUS* sp. Malaceæ.

No. 1017.

58518 to 58548—Continued.

58527. *DAPHNE* sp. Thymeliaceæ.

No. 794.

58528. *ELAEAGNUS* sp. Elæagnaceæ.

No. 179.

58529. *EUONYMUS* sp. Celastraceæ.

No. 1039.

58530. *HORDEUM VULGARE COELESTE* L. Poaceæ. Naked barley.

The Tibetan barley is very hardy and is usually grown at an altitude of more than 10,000 feet, where other cereal crops do not thrive. It is sown in early April and harvested at the end of September, and is the staple cereal crop of the inhabitants of the Kansu-Tibet border. (*Ching*.)

58531. *IRIS* sp. Iridaceæ. Iris.

No. 993.

58532. *JUNIPERUS* sp. Pinaceæ. Juniper.

No. 993.

58533. *LONICERA* sp. Caprifoliaceæ. Honeysuckle.

No. 996.

58534 to 58536. *MALUS* spp. Malaceæ. Apple.

58534. *MALUS* sp.

No. 997.

58535. *MALUS* sp.

No. 1007.

58536. *MALUS* sp.

No. 1038.

58537. *MECONOPSIS* sp. Papaveraceæ.

No. 818.

58538. *PINUS ARMANDI* Franch. Pinaceæ. Pine.

No. 1039.

For previous introduction, see S. P. I. No. 58367.

58539. *PRINSEPIA* sp. Amygdalaceæ.

No. 1033.

58540. *PRUNUS* sp. Amygdalaceæ. Plum.

No. 832.

58541. *PRUNUS* sp. Amygdalaceæ. Cherry.

No. 1002.

58542. *PYRUS* sp. Malaceæ. Pear.

No. 966.

58543. *ROSA* sp. Rosaceæ. Rose.

No. 1018.

58544. *SAMBUCUS* sp. Caprifoliaceæ. Elder.

No. 967.

58545. *SORBARIA* sp. Rosaceæ.

No. 504.

58546. *SORBUS* sp. Malaceæ.

No. 751.

58547. *SORBUS* sp. Malaceæ.

No. 920.

58548. *TRITICUM TURGIDUM* L. Poaceæ. Poulard wheat.

The Sinkiang wheat has just been introduced into western Kansu, and its yield has been much greater, I was told, than the native varieties. The head is somewhat triangular, being broad at the base. This variety is now growing in a very limited area at an altitude of about 7,000 feet and is sown either in the spring or fall. (*Ching*.)

58549 to 58551. ORNITHOGALUM spp.
Liliaceæ.

From Chilterns, Wynberg, Union of South Africa. Bulbs presented by J. B. Taylor. Received March 1, 1924. Notes by Mr. Taylor.

These bulbs, found in Caledon District, Cape Province, bear very beautiful flowers which keep fresh a long time. They do best in sandy soil.

58549. ORNITHOGALUM sp.

Bright-yellow flowers.

58550. ORNITHOGALUM sp.

A rare variety with deep-orange flowers.

58551. ORNITHOGALUM sp.

A very rare variety with pale-yellow flowers.

58552. EREMOCITRUS GLAUCA (Lindl.) Swingle. (*Atalantia glauca* Benth.).
Rutaceæ.**Australian desert kumquat.**

From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. Received February 29, 1924.

"This is one of the most interesting of all citrus fruits and one which, curiously enough, has never yet received adequate attention from botanists or horticulturists. It was first mentioned by Leichhardt, the German explorer, to whom we owe much of our knowledge concerning the interior of the deserts of northeastern Australia. It is a shrub or small tree from 12 to 15 feet high, with a trunk 2 to 6 inches in diameter. It has small but thick, leathery leaves of gray-green color, and one is struck by the scantiness of the foliage. The flowers are small and the fruits about half an inch in diameter. An agreeable beverage is made from the acid juice, and a fair preserve may be made out of the fruit. The peel has the sweetish flavor of the kumquat. It is known in Australia as the native lemon. The plant was described botanically in a footnote to Thomas Livingston Mitchell's 'Journal of an Expedition into the Interior of Tropical Australia in Search of a Route from Sydney to the Gulf of Carpentaria.' This plant was discovered on October 17, 1846, not far from Lieutenant Colonel Mitchell's camp, near the juncture of the Maranoa and Merivale Rivers, in the southern limit of Queensland, latitude 26° S. Decidedly cold weather was encountered near this point, in some cases the ice being so thick that it had to be broken in the morning before the horses could drink. It seems probable from this that the plant grows in a region where the temperature occasionally falls to 10° F. and in rare cases nearly to zero. It is the hardiest of all evergreen citrus fruits and is very promising for use in breeding new and hardy types." (W. T. Swingle.)

For previous introduction, see S. P. I. No. 56700.

58553. LILIUM DAURICUM Ker. Lilia-
ceæ. **Lily.**

From Harbin, Manchuria. Seeds presented by B. W. Skvortzow. Received March 12, 1924.

Collected in Mavershan District, Kirin, Manchuria, in 1923. (Skvortzow.)

A plant about 3 feet in height, with a smooth or slightly furrowed stem which is green or tinged with brown or purple. The 20 to 50 horizontal leaves are 3 to 5 inches long, and the flowers, one to five in a cluster and 3 to 5 inches across, are orange-red, slightly spotted with purplish black, and tinged with yellow in the center; the anthers are red.

58554. MOMORDICA COCHINCHINENSIS (Lour.) Spreng. Cucurbitaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 13, 1924.

This is a very vigorous native Philippine vine with large, round, handsome, greenish yellow fruits which should make it popular as an ornamental vine in southern Florida, Porto Rico, and Panama. The immature fruits are boiled and eaten with meat by the natives, and the tender leaves also are boiled and eaten. The large seeds appear to be very rich in oil which, so far as I know, has never been investigated. (Wester.)

For previous introduction, see S. P. I. No. 52497.

58555 to 58558. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceæ.
Common wheat.

From Paris, France. Seeds sent by A. Meunissier, Vilmorin-Andrieux & Co., Paris, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of European wheats introduced for cerealists engaged in the study of stem rusts.

58555. (C. I. No. 7326.) Carlotta Strampelli.**58556. (C. I. No. 7327.) Chiddam Blanc de Mars.**

58557. "(C. I. No. 7328.) Hybride de la Paix is one of the introductions of Vilmorin-Andrieux & Co. It is a winter wheat which tests near Paris have shown to be of good yield." (C. E. Leighty, Bureau of Plant Industry.)

58558. (C. I. No. 7329.)

Hybride hâtif inversable was obtained in 1898 at Verrieres by Vilmorin-Andrieux & Co. by crossing Gros bleu and Chiddam d'automne à épi blanc. It can be seeded in the fall and in February and is resistant to cold and to rust. It is widely grown in France and to some extent in England and other countries. It is also known as Dreadnought, Steadfast, Monoplan, and Admiral Beatty. (Jacques de Vilmorin, *Quelques blés d'automne, Journal d'Agriculture Pratique*, August 28, 1919.)

58559 to 58563. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceæ.
Common wheat.

From Aberystwyth, Wales. Seeds sent by R. G. Stapledon, department of plant breeding, University College of Wales, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of locally developed European wheat varieties secured for testing by cereal breeders.

58559. (C. I. No. 7334.) Burgoyne Fife.**58560. (C. I. No. 7335.) Svalof.****58561. (C. I. No. 7336.) Cooks Wonder.****58562. (C. I. No. 7337.) April Bearded.****58563. (C. I. No. 7338.) Red Marvel.****58564 to 58567. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceæ.**
Common wheat.

From Svalof, Sweden. Seeds sent by Dr. Akerman, Svalof, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of locally developed Swedish wheat varieties secured for cereal breeders.

58564. (C. I. No. 7330.) Pansar II**58565. (C. I. No. 7331.) Riddar.****58566. (C. I. No. 7332.) Host 0806.****58567. (C. I. No. 7333.) Thule II.**

58568. MUSA sp. Musaceæ.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received November 22, 1923. Numbered January, 1924.

Introduced in response to a request for edible bananas producing viable seeds.

58569. TETRASTIGMA HARMANDI Planch. Vitaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 21, 1924.

Ayó. An attractive, perennial evergreen vine of vigorous growth, with palmately 5-foliolate, shining dark-green leaves. The fruits are produced in small bunches like grapes and are of about the same size as a small Concord grape and of a dull-brown color. The flesh is semitranslucent, subacid, juicy, and of fair flavor. It is eaten by the Filipinos and could doubtless be used for making jelly and preserves. The plant makes a splendid climbing ornamental and is commonly so used in Manila. (See Plate XXIX, Philippine Agricultural Review, vol. XIV, No. 3, 1921.) (Wester.)

58570. HIBISCUS SABDARIFFA L. Malvaceæ. Roselle.

From Kingston, Jamaica. Seeds presented by W. S. Goodman, acting superintendent, Hope Gardens. Received March 20, 1924.

The roselle or, as it is sometimes called, Jamaica sorrel is widely cultivated in the Tropics of both hemispheres for the sake of the fleshy red calyces, which, when cooked, make an excellent jelly or sauce with a flavor resembling that of the cranberry. The juice pressed from the calyces makes a pleasant acid beverage. The plant is a vigorous annual 5 to 7 feet high and grows best in hot, dry climates.

For previous introduction, see S. P. I. No. 51268.

58571. PHELEUM PRATENSE L. Poaceæ. Timothy.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received March 20, 1924.

Locally grown seeds introduced for timothy-breeding tests.

58572. EHRHARTA ERECTA Lam. (E. panicea Smith.). Poaceæ.

From South Yarra, Victoria. Seeds presented by William Laidlaw, government botanist, National Herbarium of Victoria. Received January 5, 1924.

Panic Veldt grass. This was first introduced into Victoria in 1910 from South Africa, where it is native. It is a biennial or short-lived perennial and appears to be naturally adapted to regions having mild winters, where it springs up after the autumn rains and grows through the winter, maturing in early summer. It is not particular as to soil and seems to do best in partial shade, growing in places too dark for most grasses. It produces an abundance of foliage. (Laidlaw.)

58573. TIGRIDIA PAVONIA (L. f.) Ker. Iridaceæ.

From Casa Alvarado, Coyoacan, Mexico. Seeds presented by Mrs. Zelia Nuttall. Received January 5, 1924.

Although this species, like the dahlia, is looked upon as a food plant in some quarters, it will in all probability be more often employed as an ornamental in the United States. Its beautiful, delicate flowers with their unique and peculiar markings, make it an object of great interest in the garden, especially since it is so seldom seen in this country. Although the flowers last but a short while, there

is a succession in a mass planting of them which prolongs the display of yellow, orange, scarlet, and various combinations of reds as satisfactorily as many more durable species.

The tiger flower is adapted to the same situation in the garden as the gladiolus, is similarly handled, and is as easily grown. The species deserves much more extensive culture than it is receiving. It can be treated like the gladiolus in cold climates, but it thrives best when planting or transplanting of the stocks takes place in the fall; in other words, where there is no danger of the corms being injured by low winter temperatures. (David Griffiths, Bureau of Plant Industry.)

58574. KOKIA DRYNARIOIDES (Seem.) Lewton. Malvaceæ.

From Honolulu, Hawaii. Fruits presented by C. S. Judd, superintendent of forestry. Received January 4, 1924.

So far as I know, there is now only one tree of this species in existence. It is growing at Kauluawai and was raised from seeds obtained from the last wild tree at Mahana, now dead, discovered and described by J. F. Rock. (Judd.)

An ornamental tree with long-stemmed, heart-shaped leaves and red, silky flowers, native to the Hawaiian Islands, but now become practically extinct because of the ravages of cattle, sheep, and goats, which eat the leaves and bark. (Adapted from Rock, *Indigenous Trees of the Hawaiian Islands*, p. 307.)

For previous introduction, see S. P. I. No. 50624.

58575 to 58581. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceæ. Common wheat.

From Bologna, Italy. Seeds sent by Dr. Pellegrini, University of Bologna, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of Italian wheat strains which are said to be resistant to all rusts in Italy, according to C. E. Leighty, of the Bureau of Plant Industry. These have been obtained for the use of cereal breeders.

58575. (C. I. No. 7339.) Beardless, red, smooth.

58576. (C. I. No. 7340.) Beardless, red, rough.

58577. (C. I. No. 7341.) Beardless, white, smooth.

58578. (C. I. No. 7342.) Beardless, white, rough.

58579. (C. I. No. 7343.) Bearded, red, rough.

58580. (C. I. No. 7344.) Bearded, white, smooth

58581. (C. I. No. 7345.) Bearded, red, smooth.

58582. PACHIRA INSIGNIS (Swartz) Sav. Bombacaceæ.

From Kingston, Jamaica. Seeds presented by W. S. Goodman, acting superintendent, Hope Gardens. Received January 11, 1924.

A beautiful tropical tree, native to the West Indies and northern South America, which becomes about 30 feet tall, with a trunk up to a foot in diameter. The flowers, about a foot wide, are of extraordinary beauty with their crimson petals and white stamens, and a delightful perfume is given off by them. The fruit is a very large woody capsule which contains numerous edible seeds; these are of the size, appearance, and taste of chestnuts.

58583. MOMORDICA COCHINCHINENSIS (Lour.) Spreng. Cucurbitaceæ.

From Santiago de las Vegas, Cuba. Seeds collected at the agricultural experiment station, Santiago de las Vegas, and presented by C. V. Piper, Bureau of Plant Industry. Received January 11, 1924.

A tall climber with ovoid, orange fruits, about 6 inches long. The numerous round, flat seeds are said to be rich in oil. (*Piper*.)

For previous introduction, see S. P. I. No. 58554.

58584. MUSA sp. Musaceæ.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received January 11, 1924.

A large number of the Musas are handsome ornamentals and are extensively cultivated in the warmer parts of the world for their gorgeous tropical effect. This unidentified species will be given a trial in the southernmost part of Florida.

58585 and 58586.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received January 12, 1924.

58585. ACACIA JONESII Muell. and Maiden. Mimosaçæ.

A very handsome little shrub, native only to a small district of New South Wales, where it reaches a height of 2 to 3 feet, with a stem about three-fourths of an inch in diameter. The fine-cut foliage is a deep green, and the flower headlets are in simple racemes. (Adapted from *Proceedings of the Linnean Society of New South Wales*, vol. 8, ser. 2, p. 13.)

58586. INDIGOFERA AUSTRALIS Willd. Fabaceæ.

An erect branching shrub 2 to 4 feet high, with very attractive compound leaves and dense or loose clusters of showy red flowers. It is very variable in regard to habit and foliage, and in its various forms is found almost throughout Australia, except in the Northern Territory. (Adapted from *Bentham, Flora Australiensis*, vol. 2, p. 199.)

For previous introduction, see S. P. I. No. 56575.

58587. FICUS MYSORENSIS Heyne. Moraceæ.

From Lal Bagh, Bangalore, India. Seeds presented by G. H. Krumbiegel, superintendent, Government Botanic Gardens. Received January 15, 1924.

A large, broadly spreading tree, native to the forests of the subtropical Himalayas from Sikkim eastward. The aerial roots are few, embracing the trunk, and the ovate, leathery leaves, which are prominently veined, are up to 8 inches in length. (Adapted from *Hooker, Flora of British India*, vol. 6, p. 600.)

58588. TITHONIA DIVERSIFOLIA (Hemsl.) A. Gray. Asteraceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 15, 1924.

I have just seen this perennial composite at its best, and it far surpasses my expectations as an ornamental. Clumps of it are a blazing mass of yellow, and the flowers often reach a width of 4 inches. These are produced in great abundance during the autumn and early winter months, and the plant therefore might be a good ornamental for Florida during the early winter season. (*Wester*.)

For previous introduction, see S. P. I. No. 57093.

58589. GARCINIA MORELLA (Gaertn.) Desr. Clusiaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, botanic gardens. Received January 17, 1924.

In connection with the department's effort to establish mangosteen culture in the tropical American dependencies of the United States, several species of *Garcinia* have been tested as stock plants. The mangosteen, when grown on its own roots, is a delicate subject indeed, and it has been thought

grafting on more vigorous species might solve one of the difficulties in the way of its culture. *Garcinia morella* has shown promise as a stock plant, and the seeds under this number will be used to produce plants for further experimentation.

58590. FUNTUMIA ELASTICA (Preuss) Stapf. Apocynaceæ.

Lagos rubber tree.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received January 17, 1924.

The Lagos rubber tree is the most important source of rubber native to West Africa and is distributed throughout western tropical Africa from Sierra Leone to Cameroon, and also in British East Africa.

Introduced for rubber specialists.

58591. LANDOLPHIA DROOGMANSIANA Wildem. Apocynaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received January 18, 1924.

A giant creeper from the Belgian Congo which becomes over 300 feet in length, with a stem about 8 inches in diameter. The leathery, oblong-rounded leaves are about 5 inches long. This species yields an excellent rubber-producing latex (Adapted from *Wildeman and Gentil, Lianes Caoutchoutifères du Congo*, p. 59.)

Introduced for testing by rubber specialists.

58592. HYDNOCARPUS ANTHELMINTHICA Pierre. Flacourtiaceæ.

From Bangkok, Siam. Seeds presented by Dr. A. F. G. Kerr, director, botanical section, Ministry of Commerce. Received January 18, 1924.

The *maikrabao*, as this species is called in Siam, where it is native, is a vigorous, graceful tree 30 to 60 feet in height, with large leathery leaves up to a foot in length, pale yellowish above and shining green below. The rose-colored or purplish flowers are in few-flowered racemes, and the large, round fruits, about 3 inches in diameter, contain each about 80 oval seeds from which a fatty oil is expressed. In its physical characteristics and chemical composition this oil closely resembles chaulmoogra oil, which is used with great success in the treatment of leprosy. Like the true chaulmoogra oil (obtained from *Taraktogenos kurzii* King) this consists to a large extent of the glyceryl esters of chaulmoogric and hydnocarpic acids, and it may therefore be inferred that it possesses similar medicinal value.

Young trees of this species are doing well in Hawaii. The plant is likely to prove of value in that region as well as in tropical America.

58593. MARKHAMIA sp. Bignoniaceæ.

From Umtali, Rhodesia, South Africa. Seeds presented by Rev. E. H. Greely. Received January 23, 1924.

A native Rhodesian tree with yellow flowers 2 inches across. It resembles the central African species of *Spathodea*. (*Greely*.)

This is a genus of handsome tropical evergreen trees or shrubs, with large panicles of flowers which are usually yellow.

58594. VALLARIS * HEYNEI Spreng. Apocynaceæ.

From Allahabad, India. Seeds presented by W. B. Hayes, horticulturist, Allahabad Agricultural Institute. Received January 22, 1924.

A climbing shrub with fragrant, white flowers three-fourths of an inch wide, often cultivated as an ornamental in India, where it is native. It has milky juice which is used medicinally in its native country. The plant is introduced for the use of specialists engaged in rubber investigations.

For previous introduction, see S. P. I. No. 53592.

58595 and 58596.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received January 23, 1924. Notes by Mr. Rock.

58595. *LILIUM* sp. Liliaceæ.

Lily.

(October, 1923.) A small lily 10 to 12 inches high, which grows on the alpine meadows of the Sila Pass, Mekong-Salwin Divide, at an altitude of about 12,000 feet. It is well worthy of cultivation on account of its drooping, rich purplish black, bell-shaped flowers, tinged with carmine, which are 1 or 2 inches long and broad.

58596. *MECONOPSIS* sp. Papaveraceæ.

(November 1, 1923.) An herbaceous plant 3 to 4 feet high, found on Francis Garnier Peak at an altitude of 14,500 feet, en route from the Salwin River to the Mekong River, via the Shondsungla-Tibet border. The flowers are probably yellow.

58597 to 58600.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received January 24, 1924. Notes by Mr. Rock.

58597. *JUGLANS REGIA* L. Juglandaceæ.

(October 25, 1923.) A tall, straight tree which forms dense forests below Shondsungla in the valley of the Dayonlumba, a tributary of the Salwin, on the Tibetan border, at an altitude of 9,500 feet. It is often associated with maples and rhododendrons. The fruits are usually oblong, rarely globose.

58598. *RHODODENDRON ARALIAEFORME* Balf. f. and Forrest. Ericaceæ.

(No. 10882. November, 1923.) A shrub 5 to 8 feet high which grows on the mountain slopes west of Atuntze at an altitude of about 12,000 feet. The rich, golden yellow flowers are in large terminal corymbs.

58599. *RHODODENDRON ARALIAEFORME* Balf. f. and Forrest. Ericaceæ.

(No. 10883. November 11, 1923.) A much-branched small tree 10 to 12 feet in height, which grows at an altitude of 13,500 feet on Mount Drungu, Tibetan border, overlooking the Mekong River. The leathery, dark-green, oblong leaves are brownish yellow beneath, and the flowers are deep red.

58600. *TUMION FARGESII* (Franch.) Skeels. (*Torreya fargesii* Franch.). Taxaceæ.

(October, 1923.) A tree 100 to 150 feet tall, with a trunk $4\frac{1}{2}$ feet in diameter and huge descending branches, which grows rarely in the deciduous and semideciduous forests of the Mekong-Yangtze Divide and also more commonly on the Mekong-Salwin Divide at an altitude of 10,000 feet. The fruits are the size of small walnuts. The tree prefers rich black soil and considerable rainfall.

58601. HYOSCYAMUS MUTICUS L. Solanaceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received January 24, 1924.

Like the henbane (*Hyoscyamus niger*) this plant, which is native to Egypt and western Asia, is a source of hyoscyamin, an alkaloid used in the treatment of various nervous disorders. It is a thick-stemmed perennial with fleshy, ovate leaves about 4 inches long and violet-spotted, whitish flowers nearly an inch in length.

For previous introduction, see S. P. I. No. 53543.

58602. CASTANEA MOLLISSIMA Blume. **Fagaceæ.** **Chestnut.**

From Nanking, China. Seeds purchased from Prof. J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received January 26, 1924.

In the endeavor to relieve the situation caused by the rapid disappearance of our native chestnut due to the ravages of the chestnut-blight fungus, the Chinese hairy chestnut is being introduced into this country in considerable quantity. The size and quality of the nuts compare rather favorably with those of our native chestnut, although neither the size of the tree nor the tannin content measures up to those of our native species.

58603 to 58623.

From Elstree, Herts, England. Seeds presented by Vicary Gibbs, Aldenham House Gardens. Received January 25, 1924.

58603. *ACANTHOPANAX SESSILIFLORUM* (Rupr. and Maxim.) Seem. Araliaceæ.

A vigorous, deciduous shrub which forms a large spreading bush 10 feet high, with 3 or 5 lobed, irregularly toothed leaves. The flowers, brownish purple with yellow protruding stamens, are packed closely in a spherical, almost stalkless cluster about an inch in diameter and appear in July. The inky black berries are in round clusters about an inch thick. This is one of the hardest shrubs introduced from northern China, where it is native.

58604. *BERBERIS VEITCHII* C. Schneid. Berberidaceæ. **Barberry.**

A shrub with gracefully arching branches, leathery, pale-green leaves, and bronze-yellow flowers with reddish outer surfaces. The berries are black and broadly elliptic. Native to western Hupeh, China. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 438.)

For previous introduction, see S. P. I. No. 53646.

58605. *CHAENOMELES LAGENARIA WILSONII* Rehder. Malaceæ.

A bush 4 to 6 meters (approximately 13 to 20 feet) tall, found at an altitude of 1,800 meters (approximately 5,900 feet), in western Szèchwan. The flowers vary in color from white to red, and the fruits are golden and red. This variety differs from the typical form in the dense yellowish wool which covers the lower surfaces of the leaves. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 2, p. 298.)

For previous introduction, see S. P. I. No. 49664.

58606. *CLEMATIS TANGUTICA OBTUSIUSCULA* Rehd. and Wils. Ranunculaceæ.

A handsome climbing shrub, native to Central Asia, with sharply cut compound leaves and very large, solitary, nodding flowers which are borne on erect stems 6 inches long and arched at the tip. The golden-yellow sepals are about 2 inches long, with recurved tips. (Adapted from *Curtis's Botanical Magazine*, pl. 7710.)

For previous introduction, see S. P. I. No. 52337.

58607. *COROKIA VIRGATA* Turrill. Cornaceæ.

A slender-branched shrub, 6 to 12 feet high, native to the most northern part of New Zealand, where mild weather prevails throughout the year. The shining-green, oblong-spatulate leaves are downy white beneath, and the yellow flowers, about half an inch across, are in 3-flowered clusters. (Adapted from *Curtis's Botanical Magazine*, pl. 8466.)

58603 to 58623—Continued.

58608 to 58611. COTONEASTER spp. Malaceæ.

58608. COTONEASTER BULLATA Bois.

An ornamental hardy shrub, about 10 feet high, native to western China. The leaves are dark green and the flowers rosy white, but the greatest attraction of this shrub is the abundant crop of brilliant red fruits which are borne on the upper sides of the long arching branches toward the end of August. Some of the fruiting clusters are 2 inches across.

For previous introduction, see S. P. I. No. 53672.

58609. COTONEASTER FRIGIDA Wall.

Var. *vicari*. This is an improved form with deep-green leaves, grayish beneath, and large clusters of rich-red berries which are larger and brighter than those of the typical species. (Adapted from *Gardening Illustrated*, vol. 42, p. 721.)

For previous introduction, see S. P. I. No. 56450.

58610. COTONEASTER SALICIFOLIA RUGOSA (E. Pritz.) Rehd. and Wils.

A very handsome Chinese shrub with long pendulous branches and wrinkled, narrow leaves with the lower surfaces covered with down. The small, scarlet berries contrast very effectively with the autumnal tints of the foliage. (Adapted from *Journal of the Royal Horticultural Society*, vol. 38, p. cclii.)

For previous introduction, see S. P. I. No. 55083.

58611. COTONEASTER sp.

According to Mr. Gibbs this is closely related to *Cotoneaster francheti*, which is an evergreen shrub from western China, with lustrous green leaves, rosy white flowers, and oblong, orange-scarlet fruits.

58612. KALOPANAX DIVARICATUM (Sieb. and Zucc.) Miquel. Araliaceæ.

A deciduous shrub of vigorous habit, forming a large, spreading bush 5 to 10 feet or more in height. It is native to the mountains of Kiushiu, Japan, and is closely related to *Acanthopanax sessiliflorum*, cultivated in European gardens for its handsome, dark-green leaves and spherical heads of inky black fruits. Unlike the latter, this species has downy young shoots, and the lower surfaces of the leaves are also quite downy. It should probably prove hardy in all but the coldest parts of the United States.

58613. LIGUSTRUM DELAVAYANUM Hariot. Oleaceæ. Privet.

An evergreen shrub about 6 feet high with long graceful branches and dark, shining-green, oval leaves. The white flowers, borne in downy panicles, and the black fruits make the shrub very ornamental. It is native to the mountainous regions of Yunnan, China, and is probably suited for growing only in the southern United States.

For previous introduction, see S. P. I. No. 55089.

58614. LONICERA TRICHOPODA Franch. Caprifoliaceæ. Honeysuckle.

A slender-branched shrubby honeysuckle from Yunnan, China, with narrowly oblong leaves which are covered with fine hairs. The yellowish white flowers are marked with red and are followed by bright-red berries.

58603 to 58623—Continued.

58615. LONICERA sp. Caprifoliaceæ.

Honeysuckle.

An undetermined species which, according to Gibbs, is related to *Lonicera henryi*, which is an evergreen climber native to western China, with dark-green leaves, purplish red flowers, and blackish purple fruits.

58616 to 58618. ROSA spp. Rosaceæ. Rose.

58616. ROSA BRUNONII Lindl.

The Himalayan Musk rose is a tall shrub with arching branches short, stout, hooked prickles, and fragrant, single, white flowers about 2 inches across, borne in large many-flowered clusters. It is a native of the Himalayas and also of western China.

58617. ROSA DAVIDI Crepin.

A pink-flowered, orange-fruited rose 3 to 18 feet high, native to western Szechwan, China, at altitudes of 4,000 to 9,000 feet. It is the nearest Chinese relative of *Rosa macrophylla* of the western Himalayas. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 2, p. 322.)

For previous introduction, see S. P. I. No. 53732.

* 58618. ROSA PRATTII Hemsl.

A slender-branched, shrubby rose which becomes about 8 feet in height, with numerous bristles and slender prickles. The pink flowers, about three-fourths of an inch across, occur singly or in few-flowered clusters, and the scarlet fruits are about one-third of an inch long. This hardy species is a native of western China.

For previous introduction, see S. P. I. No. 43907.

58619. SCHIZANDRIA RUBRIFLORA (Franch.) Rehd. and Wils. Magnoliaceæ.

A climbing shrub, often 20 feet in height, which grows at high altitudes in the mountains of western China. The oblong or obovate, sharp-pointed leaves are dark green above and paler below, and the solitary dark-red flowers are about an inch across. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 1, p. 412.)

58620. STRANVAESIA DAVIDIANA Decaisne. Malaceæ.

This yellow-fruited form was raised from the same batch of seeds as S. P. I. No. 56695, but the fruits were found to have a distinct orange-yellow color. Seedlings may revert to the original type. (Edwin Beckett, superintendent, Aldenham House Gardens.)

For previous introduction, see S. P. I. No. 56696.

58621. STRANVAESIA DAVIDIANA UNDULATA (Decaisne) Rehd. and Wils. Malaceæ.

A low, spreading, evergreen shrub, or occasionally a small tree, which is native to western China. The leathery, narrowly oval leaves are glossy green and 1 to 3 inches long, and the white flowers, about half an inch across, appear in terminal clusters. Its greatest charm as an ornamental is the abundant crop of bright-red fruits.

For previous introduction, see S. P. I. No. 40196.

58603 to 58623—Continued.

58622. *VIBURNUM DASYANTHUM* Rehder Caprifoliaceae.

A hardy ornamental shrub about 7 feet high from the mountains of western Hupeh, China, where it grows at altitudes of 4,000 to 9,000 feet. The narrow, toothed leaves are dark metallic green above, paler beneath, and prominently veined. The flowers are in lax panicles, and the small red berries make the shrub a striking object of beauty in the fruiting season.

58623. *VIBURNUM PHLEBOTRICHUM* Sieb. and Zucc. Caprifoliaceae.

A deciduous shrub, native to Japan, which is very similar to *Viburnum wrightii*, from the same country. It becomes 6 to 10 feet in height, with rather small, narrowly oval, bright-green leaves, white flowers produced in cymes 2 to 4 inches across, and roundish red berries which give the shrub a very attractive appearance.

For previous introduction, see S. P. I. No. 40200.

58624. *BAUHINIA HETEROPHYLLA* Kunth. Caesalpiniaceae.

From Santiago de las Vegas, Cuba. Seeds presented by Dr. Mario Calvino, director, Estación Experimental Agronómica. Received January 28, 1924.

This is called "bejuco tortuga (turtle vine)," because of the characteristic turtle-shaped swellings in the older parts of the vine. It grows in low, sandy places, chiefly on the edges of lagoons and marshes in western Cuba, where it climbs over trees and shrubs. The clusters of yellowish white flowers appear in December. The young vine is used by the natives for making rough baskets and rope. (Calvino.)

58625 and 58626. *DIOSCOREA* spp. Dioscoreaceae.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received January 31, 1924. Notes by R. A. Young, unless otherwise stated.

58625. *DIOSCOREA CAYENENSIS* Lam.

Yellow Guinea yam.

Congo. In Mayaguez this is called Congo amarillo, but in the San Juan market, where it is found in greater abundance than other kinds, it is known as Yellow Guinea. It thrives much better in sandy soil than most yams. The large roots attain a length of a foot, are rather cylindrical, and average a weight of 4 or 5 pounds in favorable seasons. The interior of the starchy root is a rich light yellow and turns dark brown when exposed to the air. It is smoother and more even grained than the water yams and not less so than the roots of the White Guinea or the Potato yams. It is rich yellow and of good texture when cooked. The flavor is pleasant and compares favorably in richness with the best yams. The vines of this variety are not angled; they are small and very strong, and make a moderately vigorous growth. (Adapted from C. F. Kinman in *Bulletin 27, Porto Rico Agricultural Experiment Station*, pp. 20 and 21.)

In addition to the data on quality given by Kinman, it may be noted that this yam has a slightly bitter taste; on this account special methods of cooking may sometimes be required. It is said that the bitterness is more noticeable in immature tubers than in fully mature ones.

For previous introduction, see S. P. I. No. 54901.

58626. *DIOSCOREA ROTUNDATA* Poir.

White Guinea yam.

Guinea yam. A white-fleshed yam of excellent quality and one of the most popular varieties grown in Porto Rico. The tubers are usually cylindrical and commonly weigh from 3 to 6 pounds each at maturity.

For previous introduction, see S. P. I. No. 53006.

58627. *CARICA CANDICANS* A. Gray. Papayaceae.

From Peru. Seeds presented by B. E. Dahlgren, Field Museum of Natural History, Chicago, Ill. Received January 31, 1924.

Collected by J. F. Macbride, in Peru. (Dahlgren.)

A wild relative of the papaya (*Carica papaya*), which is native to the mountainous region of Peru between Lima and Obrajillo, at an altitude of about 7,000 feet. It is a small tree, 6 to 10 feet high, with a few stout branches and a fruit said to be shaped like a cacao pod. It may be of use to horticulturists in southern Florida who are carrying on breeding experiments with the papaya.

58628. *EUCALYPTUS DELEGATENSIS* R. T. Baker. Myrtaceae.

From Tasmania. Seeds presented by Dr. J. G. Lipman, director, agricultural experiment station, New Brunswick, N. J. Received February 1, 1924.

This seems to be a valuable timber tree in Tasmania, where it is native. (Lipman.)

"The gum-topped stringybark is an erect tree, often assuming the largest dimensions. The branches are usually short and ascending, and the bark is thin and fibrous." (L. Rodway, *Tasmanian Eucalypts*, p. 15.)

For previous introduction, see S. P. I. No. 58127.

58629 and 58630. *JUGLANS REGIA* L. Juglandaceae.

From Srinagar, Kashmir, India. Seeds presented by R. K. Koul, Koul's Gardens. Received February 2, 1924.

Walnuts have been cultivated since remote times in the hilly portions of India, and in Kashmir especially the industry has been highly developed. These seeds are from superior varieties which are grown at an altitude of about 5,500 feet, in a region where mild winters and warm, but not hot, summers prevail.

58629. *Kaghzi*.

58630. A small variety.

58631 and 58632. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Valence, Rhone, France. Seeds purchased from Tézier Frères. Received March 12, 1924.

Locally grown strains introduced for clover specialists.

58631. Harvested in the southern Alps.

58632. Harvested in Drome, near Valence.

58633 and 58634. *RHODODENDRON* spp. Ericaceae.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received January 31, 1924. Notes by Mr. Rock.

58633. *RHODODENDRON* sp.

(No. 10884. Tsarong, Tibet. November 23, 1923.) A shrub or small tree, 10 to 15 feet high, collected on the banks of the Dzossutong, at an altitude of 12,000 feet. All parts of the plant are extremely aromatic, with a peppermint-turpentine fragrance. The elliptical, thin, dark glossy green leaves are greenish brown beneath, densely dotted, and have red petioles. The flowers may be pink.

58634. *RHODODENDRON* sp.

(No. 10885. November, 1923.) A tree or shrub 15 to 25 feet in height, sometimes with a trunk 10 inches in diameter, found on the slopes of the sacred mountain Dokerla, Tibetan border, at an altitude of 11,000 feet, in a mossy forest along the banks of a stream. The lanceolate glabrous leaves are dull green, paler beneath, and the red flowers are in terminal umbels.

58635. CROTALARIA sp. Fabaceæ.

From Angola, Africa. Seeds presented by Merlin W. Ennis. Received February 2, 1924.

In our experiments with various plants introduced for cover crops we did not discover anything satisfactory, so we turned to the plants growing wild in this region. Among these was the "Elende clover," of which we are sending you seeds. This is a rather inconspicuous plant which grows in all sorts of places. I tried it first as a cover crop in the orange grove, in the hope that it might restrain the Bermuda grass. It not only smothered the Bermuda grass, but as it appears now in its second year it has made a very heavy stand. As the plant is well supplied with root nodules I believe that it will prove valuable as fertilizer. (Ennis.)

58636 to 58640.

From India. Seeds collected by Ralph R. Stewart. Received February 2, 1924. Field notes by Mr. Stewart.

58636 to 58639. RIBES spp. Grossulariaceæ.**58639. RIBES ALPESTRE Decaisne.**

(No. 7376½. Sonamarg. August 22, 1922.) Collected at an altitude of about 8,600 feet. This is the only prickly Ribes in Kashmir, and it has very large fruits.

58637. RIBES GLACIALE Wall.

(No. 6743. Sonamarg. August 22, 1922.) A very hardy species, collected at an altitude of 10,000 feet. The fruit is not used.

A shrub, 10 to 15 feet high, with reddish young shoots, rounded leaves, and small flowers which are maroon or purplish on the inside. The small, scarlet, currantlike fruits mature in July in the higher altitudes of the Himalayas, where the species is native. (Adapted from Janczewski, *Monographie des Groseilliers*, p. 467.)

58638 and 58639. RIBES ORIENTALE Desf.

Unarmed, deciduous shrubs about 6 feet high distributed from eastern Europe to the Himalayas. The leaves are shining green and bristly below, the flowers are greenish red, and the small red fruits are covered with viscid hairs.

58638. (No. 7309. Sonamarg. July and August, 1922.) A hardy species, usually on dry, open banks, at an altitude of 7,000 to 9,000 feet.

58639. (No. 7385½. Matayan Dras, Ladak. August 29, 1922.) From an altitude of 10,000 feet.

58640. RUBUS SAXATILIS L. Rosaceæ.

(No. 7467. Baltal. September 3, 1922.)

According to Sir Joseph Hooker (*Flora of British India*), *Rubus saxatilis* is distributed throughout the Himalayan region, commonly at altitudes of 10,000 to 11,000 feet. The stems are short, erect, annual from a stout woody rhizome. The leaves are composed of three ovate, somewhat lobed, acutely double-toothed leaflets, each 2 to 3 inches long. The white flowers, half an inch in diameter, are followed by fruits composed of a few large scarlet drupelets. Judging by its distribution in Asia, this species should prove sufficiently hardy for cultivation in many parts of the United States. It is of interest mainly to plant breeders who are working with this genus.

58641. ABIES FORRESTII Craib. Pinaceæ. Fir.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 5, 1924.

For previous introduction and descriptive note, see S. P. I. No. 58468.

58642. ABIES sp. Pinaceæ. Fir.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 9, 1924.

For previous introduction and descriptive note, see S. P. I. No. 58469.

58643. FICUS CARICA L. Moraceæ. Fig.

From Saonara, Padova, Italy. Plants purchased from Fratelli Sgaravatti. Received February 9, 1924.

Dottato. Dr. Gustavus Eisen, long with this department and instrumental in bringing about the introduction of many fig varieties into the United States, describes Dottato as the best-known fig of Tuscany. A large proportion of the figs exported from Italy are of this variety. The tree is said to love rich, moist soils and is not suitable for dry lands. Under proper environmental conditions, it is a strong grower and heavy bearer of medium-sized fruits, oval-pyriform in shape, smooth, and yellowish green in color.

This well-known Italian variety is introduced for cultural and comparison tests by horticulturist engaged in fig-breeding experiments.

For previous introduction, see S. P. I. No. 56631.

58644. PASPALUM NOTATUM Fluegge. Poaceæ.

From San Jose, Costa Rica. Seeds purchased from J. Alfredo Quiros. Received January 30, 1924.

Bahia grass is a perennial grass forming a dense sward of leaves and with flowering culms about 1 foot high, two-branched at the top. It is native from Cuba and Mexico southward to Argentina. It is generally recognized as a very valuable pasture grass. The rootstocks are very stout, so that even on very sandy soil the grass makes a firm sod. At the Florida experiment station, Bahia grass is spreading year by year even into land already occupied by other grasses. In Florida the best germination has been obtained by sowing the seed the latter part of May and in June. A firm seed bed seems desirable.

Bahia grass has proved hardy throughout Florida and as far north as McNeill, Miss. It succeeds on nearly all types of soil, even on the sand hills, but best in fairly firm soils.

The ergot which attacks Dallis grass and many other species of Paspalum also affects Bahia grass. Indeed, in parts of Argentina where the pastures are largely of this grass the ergot causes a disease of cattle apparently the same as that caused by the same ergot on Dallis grass in Mississippi. It is not likely, however, that this ergot will ever be serious except perhaps in limited areas where Bahia grass or Dallis grass makes up the whole pasturage. (C. V. Piper, *Bureau of Plant Industry*.)

For previous introduction, see S. P. I. No. 51121.

58645. CLITANDRA ARNOLDIANA Wildem. Apocynaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received February 5, 1924.

One of the commonest rubber-producing plants of the Belgian Congo, being found throughout the entire territory. It is a vine which becomes a foot in diameter and 250 feet in length, with leathery, narrowly oblong leaves. The rubber obtained from the latex of this species is black and of first quality. (Adapted from *Wildeman and Gentil, Lianes Caoutchoutifères du Congo*, p. 80.)

Introduced for rubber specialists.

58646. × POPULUS GENEROSA A. Henry. Salicaceæ. Poplar.

From Dublin, Ireland. Cuttings presented by Dr. Augustine Henry, College of Science for Ireland. Received March 22, 1924.

This hybrid poplar is, according to its originator, Augustine Henry, intermediate in characters between its parents (*Populus angulata* and *P. trichocarpa*). The leaves are coarsely serrate and pale gray beneath. The tree is a rapid grower and unusually vigorous.

58647 to 58658.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co. Received February 20, 1924.

58647. AMPELOPSIS MEGALOPHYLLA Diels and Gilg. (Vitis megalophylla Veitch.). Vitaceæ.

A vigorous, hardy, very interesting vine, becoming 20 to 30 feet in length, with long-stemmed, deeply lobed leaves often more than 3 feet in diameter. The bluish black fruits are in loose cymes. This species is native to western Hupeh, China, where it grows at an altitude of about 4,000 feet.

For previous introduction, see S. P. I. No. 39569.

58648. CHEIRANTHUS MUTABILIS L'Her. Brassicaceæ.

A half-woody ornamental from Madeira, about 3 feet high, with very narrow, pointed leaves. The flowers are white, cream colored, or yellowish, becoming darker and striped.

58649. EOMECON CHIONANTHA Hance. Papaveraceæ.

A hardy, herbaceous perennial, native to eastern China. The pearly white flowers, 2 inches across, are borne in a many-flowered cluster on a reddish scape a foot or more high. The contrast of the white flowers with the pale-green leaves is very striking. The root stalks run freely underground and increase rapidly.

58650. LAVATERA OLBIA L. Malvaceæ.

A shrubby perennial, native to southern Europe, about 6 feet in height. The 3-lobed or 5-lobed oblong leaves are softly hairy, and the solitary, reddish purple flowers are sometimes over 2 inches across.

58651. RUBUS FLAGELLIFLORUS Focke. Rosaceæ.

A climbing, evergreen, shrubby Rubus from central and western China, where it is found at an altitude of about 6,000 feet. The slender, graceful stems become 5 or 6 feet long in one season; when young they are covered with a whitish felt through which are scattered small recurved prickles. The broadly oval, long-pointed leaves are sometimes 7 inches long, with the lower surfaces covered with thick, yellowish felt. The shining black fruits, half an inch thick, are edible.

58652. RUBUS TRIFIDUS Thunb. Rosaceæ.

An erect, woody, Japanese species, 7 to 10 feet high, with large, palmately ribbed, serrate leaves, and medium-sized, scarlet, edible berries. Because of its bright autumn foliage this is sometimes called the "fire raspberry."

58653. SALVIA DICHROA Hook. f. Menthaceæ.

This perennial is considered by some authorities as one of the most beautiful of the more hardy sages. It comes from the Atlas Mountains in Morocco. The plant grows about 3 feet high, and the deeply cut leaves are 6 to 8 inches long. The flowers are very striking, with the upper lip bright blue, the lateral lobes light blue, and the pendulous midlobe white. The many-flowered racemes are a foot or more in length.

58647 to 58658—Continued.**58654. SISYRINCHIUM STRIATUM J. E. Smith. Iridaceæ.**

A hardy, herbaceous perennial, 1 to 3 feet high, which is native to Chile and Argentina. It has sword-shaped leaves and lemon-yellow flowers in sessile clusters on long spikes. Each tuft develops 20 to 30 flower spikes, and throughout July this makes a very striking garden ornamental.

For previous introduction, see S. P. I. No. 33818.

58655. SPHAERALCEA MUNROANA (Dougl.) Spach. Malvaceæ.

A very attractive herbaceous perennial, 1 or 2 feet in height, found on dry plains in British Columbia and southward. The leaves are faintly 3-lobed, sometimes incised, and the scarlet or rose-colored flowers, an inch across, are in many-flowered terminal or axillary panicles.

58656. THLADIANTHA OLIVERI Cogn. Cucurbitaceæ.

A vigorous herbaceous vine, with annual, softly hairy stems sometimes 30 feet long and large, heart-shaped leaves about 8 inches long. Clusters of yellow, bell-shaped flowers an inch across appear in the leaf axils from July to September, making the vine very attractive. The native home of this species is central China.

58657. VACCINIUM URCEOLATUM Hemsl. Vacciniaceæ.

A handsome bush, 2 to 6 feet in height, common on red sandstone rocks in western Szechwan, China. It has leathery, narrowly oval leaves 2 to 4 inches long, small pink flowers in racemes, and small, black, urn-shaped berries.

58658. VERBASCUM WEIDEMANNIANUM Fisch. and Mey. Scrophulariaceæ.

A hardy herbaceous biennial, 1 to 3 feet high, covered with cobwebby, woolly hairs. The radical leaves are oblong and about 4 inches long; the stem leaves are sessile and very small. The purplish lilac flowers over an inch wide are either solitary or in a simple raceme or slightly branched panicle. This species is native to the Caucasus.

58659. CASTANEA MOLLISSIMA Blume. Fagaceæ.

From Yih sien, Shantung, China. Seeds presented by K. M. Gordon, South Shantung Industrial School of the American Presbyterian Mission (North). Received March 29, 1924.

These nuts, unusually sweet in flavor, came from the village of Yangchialou, about 3 miles north of Yih sien. (Gordon.)

The Chinese hairy chestnut has been introduced into this country several times and has been quite generally distributed. It is a promising immigrant, as the nut more closely resembles our American sweet chestnut than any other foreign species. Our own chestnut is rapidly disappearing, because of the chestnut blight which was introduced from the Orient about 20 years ago. *Castanea mollissima* is resistant to blight and has other characters that would seem to make it worthy of cultivation and study.

58660. CARICA sp. Papayaceæ.

From Lima, Peru. Seeds presented by Ing. Miguel U. Reátegui, Lima, through Dr. Mario Calvino, San Manuel, Oriente, Cuba. Received March 19, 1924.

Papaya aromática. An unidentified species from the highlands of Peru, which will be used in papaya-breeding experiments in southern Florida.

58661. OLEA EUROPAEA L. Oleaceae. Olive.

From Ariana, near Tunis, Tunisia, Africa. Cuttings presented by F. Boeuf, chief, botanical service. Received March 28, 1924.

Barouni. "This variety is described in a paper entitled 'L'Olivier en Tunisie,' by N. Minangoin, published by the Department of Agriculture and Commerce of Tunis in 1901. The leaves, fruits, and seeds are illustrated in Plate I, figure 1, of this publication. I translate what Minangoin says concerning it:

"This variety is found almost exclusively in the olive orchards of the Sahel (eastern coast of Tunis) and in particular at Kalaa Srira (11 km. from the town of Sousse).

"Foliage sparse, leaves 7 to 8 cm. long, narrow, light green on the upper surface, whitish on the lower surface. Fruits single, very large, shaped like a pear upside down, wine red when mature, ripening very early. Peduncle long and strong, flesh thick and white, seed one-sided, long and thick, ending in a point. Flowers at the end of February."

"Mr. Minangoin told me himself in 1904 that the variety is extremely rare and that he knew of only three trees, which were on the estate of M. Robert at Kalaa Srira. The word Barouni means foreign, and the variety is supposed to have been introduced by one of the Beys of Tunis from Greece or Turkey. He said that the trees in question were old and do not bear well. He stated that the fruits sometimes weighed as much as 20 grams.

"I met M. Robert, who was at that time vice president of the Municipality of Sousse, and he also stated that the Barouni variety is found only at Kalaa Srira. He said that it was not commonly grown, as it requires a good deal of water and must be irrigated.

"There are two varieties of olive in Tunis to which the name Barouni is applied. The large pickling olive is Barouni de Kalaa Srira, while the other variety is known as Barouni de Soliman and has a small fruit used for making oil." (*T. H. Kearney, Bureau of Plant Industry; letter of February 7, 1924.*)

58662. DIOSCOREA sp. Dioscoreaceae. Yampi.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, agricultural experiment station. Received March 26, 1924.

Mapuey morado. The yampi is usually of even form and somewhat club-shaped, and the tubers are commonly 4 to 10 ounces in weight; the inner skin is pink. The flesh is white, but often becomes slightly grayish when cooked. The flavor is much like that of the potato, but the yampi has in addition an agreeable sweetness. (*R. A. Young, Bureau of Plant Industry.*)

For previous introduction, see S. P. I. No. 56660.

58663 to 58668. FICUS CARICA L. Moraceae. Fig.

From Malaga, Spain. Cuttings presented by Luis Liró Ortiz, director, Estación de Agricultura General de Torrox, through D. D. Shepard, American consul. Received March 4, 1924. Notes by Señor Ortiz.

58663. *Blanquilla*. A tree of medium size which does not produce early fruits (*brevas*), but bears only a large crop of small, very sweet, late fruits (*higos*).

58664. *Negra* or *Goen*. A large tree which bears both early and late fruits; these are sweet and of medium size.

58663 to 58668—Continued.

58665. *Pacueca*. A tree of medium size, bearing regular crops of early and late fruits, which are large and black.

58666. *Pardilla*. A tree which never becomes very tall, because of its spreading habit. When young it bears both early and late crops, but after several years it bears only the late fruits. These are large, brown, and very sweet. This is the best variety grown in the vicinity of Malaga; it yields well and the fruits are the best for drying.

58667. *Valenciana*. A large tree which produces only a late crop, which is regular and heavy. The fruits are large, white, and sweet.

58668. *Verdeja* or *Ojo de Perdiz*. A large tree which produces a late crop; the fruits are not so numerous as those of the *Blanquilla* [S. P. I. No. 58663], nor are they so sweet. The name "Ojo de Perdiz" is derived from the red eye of the fruit.

58669. JUGLANS REGIA L. Juglandaceae. Walnut.

From Simla, Punjab, India. Plant presented by Howard Spence, The Red House, Ainsdale, England. Received March 7, 1924.

In 1916 I received from Simla, India, a few walnuts of a variety superior in quality to any I have ever tasted, with a delicate coconut flavor. The long, narrow nut was particularly well filled with closely packed convolutions resembling those of a pecan more than of an ordinary walnut. The shell is rather thick, and the average length of the nut is a little less than 2 inches. The original tree is said to be in Bhujji (between Bilaspur and Rampur), 23 miles from Simla, in a hot, inclosed valley through which runs the Sutlej River. There may be a chance that the seeds will transmit the quality of the parent. (*Spence.*)

58670 to 58672.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 28, 1924. Notes by Mr. Wester.

58670. AMPELOCISSUS MARTINI Planch. Vitaceae.

Bika. A very attractive vine, with leaves dark green above and russet beneath. The vine dies to the ground when the fruits are ripe. The fruits are about the size of Delaware grapes, dark maroon to almost black, in bunches sometimes containing over 200. The flesh is juicy and acid, with a rather biting aftertaste. Although inedible raw, the Americans in Cebu and Iloilo say that an excellent jelly is made from them.

58671. CARICA PAPAYA L. Papayaceae. Papaya.

This is one of the most remarkable papayas I have ever seen. The fruit is oblong, obviously a hermaphrodite type, medium in size, with thick flesh, a small cavity, and few seeds. The flesh is very firm, pale-flesh color except for a distinct greenish yellow "rind" about an eighth of an inch thick, and of good quality. It will probably ship better than the average soft papaya.

58672. CITRUS NOBILIS DELICIOSA (Ten.) Swingle. Rutaceae. Mandarin orange.

This mandarin, imported from China, is the best flavored citrus fruit I ever have eaten.

58673 and 58674.

From Perth, Western Australia. Seeds presented by S. L. Kessell, conservator of forests. Received March 1, 1924.

58673. *BORONIA MEGASTIGMA* Nees. Rutaceæ.

A very slender bushy shrub about 2 feet high, from the swampy regions of Western Australia. The rather scanty foliage consists of small compound leaves having very narrow leaflets; the numerous axillary flowers are very fragrant, maroon-purple on the outside and greenish yellow within. (Adapted from *Curtis's Botanical Magazine*, pl. 6046.)

58674. *LESCHENAULTIA BILOBA* Lindl. Goodeniaceæ.

A low shrub, 2 to 3 feet high, with slender, scattered leaves half an inch in length. The flowers are either in small clusters in the upper axils or else borne in a large, leafy, terminal cluster. The corolla, about an inch long, has spreading, dark-blue wings marked with parallel, transverse veins, and the sepals are narrow like the leaves. This species is native to Western Australia. (Adapted from *Bentham, Flora Australiensis*, vol. 4, p. 42.)

58675 to 58691. *ALLIUM* spp. Liliaceæ.

From Nancy, France. Seeds presented by Prof. Edmond Gain, director, botanic garden. Received February 28, 1924.

Introduced for horticulturists studying the food possibilities of the genus.

58675. *ALLIUM ANGULOSUM* L.

A rather variable species, distributed from eastern Europe through Siberia in dry rocky places. It is usually a low plant, with narrow leaves and a hemispherical head of lilac-purple flowers.

58676. *ALLIUM CARINATUM* L.

The leaves of this European species are narrowly linear, and the lilac-purple flowers are produced in a comparatively large head. It is found throughout southern Europe, especially in the Alps.

58677 and 58678. *ALLIUM CEPA* L. Onion.

58677. Common onion.

58678. Var. *bulbellifera*. A form which has bulbels in the place of flowers.58679. *ALLIUM FISTULOSUM* L. Welsh onion.

A Siberian species which differs from the common onion in having no distinct bulb, but only an enlarged base or crown; the leaves are usually more clustered.

58680. *ALLIUM GLOBOSUM* Bieb.

The bulbs of this species are almost cylindrical, with an oblique base, and the very narrow, almost filiform leaves are shorter than the scape, which is 8 to 12 inches high. The petals are pink or white marked with a red middle stripe. Native to southeastern Europe.

58681. *ALLIUM MOLY* L.

A bulbous species with broad, glaucous leaves and scapes 10 to 15 inches high. The bright-yellow flowers are in compact heads. Native to southern Europe.

58682. *ALLIUM NARCISSIFLORUM* Vill.

An elegant Italian species about 9 inches high, with nodding heads of beautiful rose-colored flowers.

58683. *ALLIUM NUTANS* L.

A Siberian species with narrow leaves, all radical, and two nodding flower heads.

58675 to 58691—Continued.

58684. *ALLIUM OBLIQUUM* L.

A species cultivated in Siberia as a substitute for garlic.

58685. *ALLIUM PORRUM* L. Leek.58686. *ALLIUM SATIVUM* L. Garlic.58687. *ALLIUM SCHOENOPRASUM* L. Chives.

A European species with numerous, slender, awl-shaped leaves and a globular head of light-purple flowers.

58688. *ALLIUM SCORODOPRASUM* L.

Rocambole. This species grows wild in Greece and was formerly cultivated in England for the same purposes as garlic. Its bulbs are smaller than those of garlic, milder in taste, and are produced at the tip of the stem as well as at the base.

58689. *ALLIUM SPURIUM* Don.

A rather variable species, distributed from eastern Europe through Siberia in dry rocky places. It is usually a low plant, with narrow leaves and a hemispherical head of lilac-purple flowers.

58690. *ALLIUM URSINUM* L.

A wild European onion which grows in large masses in the open woods. When in flower it is very effective, clothing the ground with its broad green leaves, above which the numerous umbels of white flowers are borne on scapes a foot high.

58691. *ALLIUM VICTORIALIS* L.

One of the most distinct species of European Alliums, with stems about a foot and a half high and leaves resembling those of the lily-of-the-valley. The white or greenish white flowers are produced in May.

58692 to 58718.

From Paris, France. Seeds presented by Prof. D. Bois, Museum of Natural History. Received February 29, 1924.

A collection of leguminous plants and grasses obtained for forage-crop specialists.

58692 to 58694. *ASTRAGALUS* spp. Fabaceæ.58692. *ASTRAGALUS ALOPECUROIDES* L.

An erect, pubescent, Siberian species 2 to 5 feet in height, with narrowly oval leaves and yellow flowers produced in thick, oblong spikes.

58693. *ASTRAGALUS BOETICUS* L.

An upright, often stout annual, with compound leaves usually composed of 9 to 15 pairs of very narrow leaflets, and 6 to 15 pale-yellow flowers in a crowded raceme. Native to the Mediterranean countries.

58694. *ASTRAGALUS PONTICUS* Pall.

A hairy stemmed species with dense, axillary flower heads. Native to southern Russia.

58695. *BRACHYPODIUM DISTACHYUM* (L.) Beauv. Poaceæ. Grass.

A low, tufted annual grass, native to the Mediterranean countries, which deserves trial in the Pacific Coast States.

58696. *CAMPYLOTROPIS MACROCARPA* (Bunge) Rehder (*Lespedeza macrocarpa* Bunge). Fabaceæ.

A Chinese shrub closely allied to the *Lespedeza*s, which becomes 6 feet in height, with long-stalked leaves, oval leaflets, and many-flowered racemes of purple flowers.

For previous introduction, see S. P. I. No. 43679.

58692 to 58718—Continued.

58697. *CORONILLA EMERUS* L. Fabaceæ.
Scorpion-senna.

A dense, half-hardy, symmetrical shrub, native to southern Europe, 3 to 5 feet high, with deep glossy-green compound leaves and large, showy flowers which are yellow, tipped with red. In warm regions this species is evergreen.

58698. *CORONILLA MONTANA* Scop. Fabaceæ.

An erect, smooth yellow-flowered perennial species, with the flowering stems twice as long as the leaves, found in the mountainous regions of the Caucasus.

58699. *DINEBRA ARABICA* Jacq. Poaceæ. Grass.

A laxly cespitose, somewhat rigid annual, branched from the base, with the culms sometimes prostrate, sometimes ascending or obliquely erect, 1 to 18 inches long. Native to tropical Africa and the East Indies.

For previous introduction, see S. P. I. No. 49517.

58700. *FESTUCA AMETHYSTINA* L. Poaceæ.
Grass.

A densely cespitose perennial grass with fibrous roots, stout culms, and very narrow leaves. Native to central and southeastern Europe.

58701. *HIPPOCREPIS CILIATA* Willd. Fabaceæ.

A low annual, with very narrow leaflets and small, pealike, yellow flowers. Native to the Mediterranean countries.

58702 to 58704. *LOTUS* spp. Fabaceæ.

58702. *LOTUS EDULIS* L.

A more or less hairy annual with ascending or erect branched stems 4 to 16 inches long, short-stemmed grayish green leaflets, and large, yellow flowers in few-flowered heads. It grows only in sandy areas in the Mediterranean region.

For previous introduction, see S. P. I. No. 56668.

58703. *LOTUS ORNITHOPODIODES* L.

A hairy annual with branched ascending or decumbent stems, mostly 4 to 12 inches long, native to grassy places in the Mediterranean region. The yellow flowers are in clusters of two to five.

For previous introduction, see S. P. I. No. 51866.

58704. *LOTUS SILIQUOSUS* L.

A perennial, herbaceous, hairy plant, with a compact base and slender runners. The stems, branched at the base, are mostly about a foot long and either decumbent or ascending. The solitary flowers are bright yellow. Native to northern and eastern Europe.

58705. *MEDICAGO TORNATA* Mill. Fabaceæ.

An annual species, native to Italy, with several slender branching stems a foot and a half long, and small, solitary, yellow flowers. The broad, flat, lunate pods are filled with kidney-shaped seeds.

58706. *MELICA ALTISSIMA* L. Poaceæ. Grass.

A climbing perennial grass with stout culms narrow long-pointed leaves, and racemelike, elongate panicles. Native to southeastern Europe and west-central Asia.

58707. *PISUM ELATIUS* Bieb. Fabaceæ.

A hardy annual, about 5 feet high, with leaves composed of one to three pairs of narrow leaflets, and purple flowers. Native to woods and thickets in the alpine regions of Europe.

58692 to 58718—Continued.

58708. *POA CAESIA* J. E. Smith. Poaceæ. Grass.

A densely cespitose perennial grass, native to Europe, with flowering stems 1 or 2 feet high and leaves resembling those of Kentucky bluegrass (*Poa pratensis*). It grows very freely, seeding itself.

For previous introduction, see S. P. I. No. 53156.

58709. *SCLEROPOA RIGIDA* (L.) Griseb. (*Festuca rigida* Kunth). Poaceæ. Grass.

An annual tufted grass, up to a foot in height, with linear, sharp-pointed leaves and rigid panicles. Native to Asia Minor.

58710. *SCORPIURUS SUBVILLOSA* L. Fabaceæ.

A decumbent or ascending annual with one to three stems up to 20 inches in length, long-stemmed, simple, grass-green narrow leaves, and small, yellow flowers. Native to the Mediterranean countries.

58711. *SCORPIURUS SULCATA* L. Fabaceæ.

A species very similar to the preceding (*S. subvillosa*, S. P. I. No. 58710), differing chiefly in having mostly a 3-flowered umbel and in the sepals being shorter than the calyx tube. Native to the Mediterranean countries.

58712. *TRIFOLIUM BADIUM* Schreb. Fabaceæ.
Clover.

An herbaceous perennial clover with flower-bearing stems and also leaf rosettes which do not bear flowers. The stems are mostly 4 to 8 inches long, upright, or ascending. The bright-yellow flowers become brown when dried. Native to rocky places in alpine regions of Europe.

58713. *TRIFOLIUM SQUARROSUM* L. Fabaceæ.
Clover.

An upright or ascending robust annual, with branches up to 30 inches in length, native to the Mediterranean countries. The pink or white flower heads are oval when young, becoming more elongated later.

For previous introduction, see S. P. I. No. 56272.

58714 to 58717. *TRIGONELLA* spp. Fabaceæ.

58714. *TRIGONELLA CORNICULATA* L.

An annual fodder plant, distributed from southern Europe to Africa and India. It is upright in habit, 4 to 20 inches high, with spreading branches. The elongate or obovate leaflets are greenish white beneath, and the yellow flowers are in racemes.

58715. *TRIGONELLA CRETICA* (L.) Boiss.

A yellow-flowered annual species with ascending stems, obovate leaves, and very short pods. Native to Asia Minor.

58716. *TRIGONELLA MONSPELIACA* L.

A rather low annual species, usually 2 to 8 inches high, with soft pubescence and with a pronounced coumarin odor. The leaflets are gray-green, and the sessile, yellow flowers are very small. Native to the Mediterranean countries.

58717. *TRIGONELLA POLYCRATA* L.

A prostrate or ascending annual, usually 1 or 2 feet high, with obovate leaflets and yellow flowers in small umbellike clusters. Native to southern Europe and northern Africa.

58718. *VICIA DASYCARPA* Ten. Fabaceæ. Vetch.

An annual species which is closely related to the hairy vetch (*V. villosa*); some varieties of it, however, have an earlier season than hairy vetch and are of special value for the Southern States.

For previous introduction, see S. P. I. No. 50318.

58719 to 58724. CASTANEA MOLLISSIMA
Blume. Fagaceæ.

From Nanking, China. Seeds presented by Prof. J. H. Reisner, College of Agriculture and Forestry, University of Nanking. Received March 11, 1924. Notes by Professor Reisner.

Introduced in connection with experiments to obtain a blight-resistant strain of chestnut.

58719 and 58720. Secured by Rev. S. Emmet Stephens, Tsingtao, Shantung.

58719. *Tsili*. From Taianhsien Kinkou, Shantung.

58720. From Chuchenghsien, Shantung.

58721 to 58723. Secured by Rev. H. G. Romig, Tanghsien, Shantung.

58721. From Tanghsien, Shantung.

58722. From Yencheng, Shantung.

58723. From Peih sien, Shantung.

58724. Secured by Rev. J. E. Shoemaker, Kuyao, Chekiang, from Shanyu, Chekiang.

58725 to 58730.

From Addis Ababa, Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received February 26 and March 14, 1924. Field notes by Doctor Harlan.

Collected in Modjo, Abyssinia.

58725. *ANDROPOGON CERESIAEFORMIS* Nees. Poaceæ. Grass.

(No. 298. November 11, 1923.) Used for thatching.

A tufted perennial, erect or ascending grass with very slender stems 1 to 4 feet long. Native to South Africa.

58726. *ANDROPOGON* sp. Poaceæ. Grass.

(No. 305. November, 1923.) Seeds of a wild roadside grass.

58727. *AVENA ABYSSINICA* Hochst. Poaceæ. Oats.

(No. 292. November 11, 1923.) Selected in a field of mixed oats and barley; said to be seeded with the barley.

58728. *AVENA STRIGOSA* Schreb. Poaceæ. Oats.

(No. 304. November, 1923.) Panicles from a field of barley.

58729. *BRASSICA* sp. Brassicaceæ.

(No. 317. November, 1923.)

58730. *CAPSICUM ANNUUM* L. Solanaceæ. Red pepper.

(No. 318. November, 1923.)

58731. CHLORIS sp. Poaceæ. Grass.

From Paris, France. Seeds presented by Prof. D. Bois, Museum of Natural History. Received February 29, 1924.

Introduced for forage-crop specialists.

58732 to 58802.

From Addis Ababa, Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received February 26 and March 14, 1924. Notes by Doctor Harlan.

58732 and 58733. *CICER ARIETINUM* L. Fabaceæ. Chickpea.

58732. (No. 312. Modjo, Abyssinia. November, 1923.)

58732 to 58802—Continued.

58733. (No. 352. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58734. *CORIANDRUM SATIVUM* L. Apiaceæ. Coriander.

(No. 316. Modjo, Abyssinia. November, 1923.) A plant esteemed because of its fragrant capsules.

58735. *CUCURBITA MAXIMA* Duchesne. Cucurbitaceæ. Squash.

(No. 323. Modjo, Abyssinia. November, 1923.)

58736. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. Poaceæ. Teff.

(No. 375. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58737. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. Poaceæ. Teff.

(No. 296. Modjo, Abyssinia. November 11, 1923.) Grown as a cereal crop; preferred to all others for bread making.

58738. *GOSSYPIUM* sp. Malvaceæ. Cotton.

(No. 289. Lake Zwai, Abyssinia. November 5, 1923.) From Hans Jammach's ostrich farm.

58739. *GOSSYPIUM* sp. Malvaceæ. Cotton.

(No. 290. Lake Zwai, Abyssinia. November 5, 1923.) From Hans Jammach's ostrich farm.

58740 and 58741. *GUIZOTIA ABYSSINICA* (L. f.) Cass. Asteraceæ.

An annual plant, 6 to 8 feet high, with showy yellow flower heads. The black, shining seeds furnish the Niger oil of commerce.

58740. (No. 314. Modjo, Abyssinia. November, 1923.)

58741. (No. 344. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58742 to 58746. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceæ. Sorghum.

58742. (No. 291. Modjo, Abyssinia. November 11, 1923.) A wild sorghum, 3 or 4 feet high, found growing in fields and grasslands.

58743. (No. 306. Modjo, Abyssinia. November, 1923.) A loose-panicked sorghum grown here for the seeds.

58744. (No. 338. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58745. (No. 353. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58746. (No. 394. Molu. November 19, 1923.) From the banks of the Muger River.

58747 to 58755. *HORDEUM* spp. Poaceæ.

58747 and 58748. *HORDEUM DEFICIENS* Steud. Deficient barley.

58747. (No. 293. Modjo, Abyssinia. November 11, 1923.)

58748. (No. 339. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58749 to 58754. (Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58749. *HORDEUM VULGARE COELESTE* L. Six-rowed barley. (No. 368.)

58732 to 58802—Continued.

- 58750 to 58754. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 58750. (No. 349.) 58753. (No. 372.)
 58751. (No. 351.) 58754. (No. 376.)
 58752. (No. 370.)
58755. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 (No. 392. Molu. November 19, 1923.) On the road to Gojam, 20 miles northwest of Addis Ababa.
58756. *HYPARRHENIA* sp. Poaceæ. Grass.
 (No. 379. Molu. November 19, 1923.) Found at an altitude of 8,000 feet.
58757. *LATHYRUS SATIVUS* L. Fabaceæ. Bitter vetch.
 (No. 309. Modjo, Abyssinia. November, 1923.)
- 58758 to 58760. *LENTILLA LENS* (L.) W. F. Wight. (*Lens esculenta* Moench.). Fabaceæ. Lentil.
 58758. (No. 297. Modjo, Abyssinia. November 11, 1923.)
 58759. (No. 343. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
 58760. (No. 371. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
- 58761 to 58764. *LINUM USITATISSIMUM* L. Linaceæ. Flax.
 58761. (No. 302. Modjo, Abyssinia. November 11, 1923.)
 58762 to 58764. (Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
 58762. (No. 346.) 58764. (No. 374.)
 58763. (No. 373.)
58765. *PENNISSETUM* sp. Poaceæ. Grass.
 (No. 380. Molu. November 19, 1923.) Found along the Muger River at an altitude of 7,000 feet.
58766. *PENNISSETUM* sp. Poaceæ. Grass.
 (No. 391. Molu. November 19, 1923.) Found at an altitude of 7,500 to 8,000 feet.
- 58767 to 58770. *PHASEOLUS VULGARIS* L. Fabaceæ. Common bean.
 (Modjo, Abyssinia. November, 1923.)
 58767. (No. 328.) Picked in a garden.
 58768. (No. 333.) 58770. (No. 335.)
 58769. (No. 334.)
- 58771 to 58774. *PISUM SATIVUM* L. Fabaceæ. Pea.
 58771. (No. 315. Modjo, Abyssinia. November, 1923.) The seeds are mixed, bright violet and slate gray.
 58772. (No. 325. Modjo, Abyssinia. November, 1923.) Mottled and white.
 58773. (No. 355. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Large, green and white.
 58774. (No. 367. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Large, mixed brown, gray and mottled, the mottled one striking.
- 58775 to 58777. *PISUM SATIVUM* L. Fabaceæ. Pea.
 58775. (No. 295. Modjo, Abyssinia. November 11, 1923.) Common variety grown in pure culture.
 58776. (No. 310. Modjo, Abyssinia. November, 1923.)
 58777. (No. 347. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Color green.

58732 to 58802—Continued.

58778. *SESAMUM ORIENTALE* L. Pedaliaceæ. Sesame.
 (No. 350. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Local name, saleet.
58779. *SPOROBOLUS* sp. Poaceæ. Grass.
 (No. 378. Molu. November 19, 1923.) Collected at an altitude of 8,000 feet. Seeds almost as big as those of teff.
58780. *TRICHOLAENA* sp. Poaceæ. Grass.
 (No. 390. Molu. November 19, 1923.) Found along the Muger River.
58781. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceæ. Fenugreek.
 (No. 369. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. A small-seeded legume.
- 58782 to 58796. *TRITICUM* spp. Poaceæ.
 58782 to 58787. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Common wheat.
 58782. (No. 299. Modjo, Abyssinia. November 11, 1923.) This type of wheat is ripening now.
 58783. (No. 303. Modjo, Abyssinia. November 12, 1923.) Several types of spikes, two of which had bright-violet kernels.
 58784. (No. 326. Modjo, Abyssinia. November, 1923.)
 58785. (No. 340. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Color purple and white.
 58786. (No. 345. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
 58787. (No. 366. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
- 58788 and 58789. *TRITICUM DICOCCUM* Schrank. Emmer.
 58788. (No. 311. Modjo, Abyssinia. November, 1923.) Mostly white.
 58789. (No. 324. Modjo, Abyssinia. November, 1923.) Black.
- 58790 and 58791. *TRITICUM DURUM* Desf. Durum wheat.
 58790. (No. 313. Modjo, Abyssinia. November, 1923.) Including spikes with violet kernels.
 58791. (No. 348. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
58792. *TRITICUM POLONICUM* L. Polish wheat.
 (No. 320. Modjo, Abyssinia. November, 1923.)
- 58793 to 58796. *TRITICUM DURUM* Desf. Durum wheat.
 (Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
 58793. (No. 337.)
 58794. (No. 341.) White.
 58795. (No. 342.) Purple.
 58796. (No. 354.)
58797. (Undetermined.)
 (No. 377. Molu. November 19, 1923.) A wild leguminous plant collected on the banks of the Muger River at an altitude of about 7,000 feet.

58732 to 58802—Continued.

58798 and 58799. *Vicia faba* L. Fabaceæ.

Broad bean.

58798. (No. 294. Modjo, Abyssinia. November 11, 1923.) Plants found scattered in a maize field.

58799. (No. 321. Modjo, Abyssinia. November, 1923.)

58800. *Vigna cylindrica* (Stickm.) Skeels. Fabaceæ. Catjang.

(No. 300. Modjo, Abyssinia. November 11, 1923.) An especially heavily seeded bean.

58801 and 58802. *Zea mays* L. Poaceæ. Corn.

58801. (No. 301. Modjo, Abyssinia. November 11, 1923.)

58802. (No. 332. Modjo, Abyssinia. November, 1923.)

58803 to 58808.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received March 12, 1924.

Introduced for horticulturists experimenting with small fruits.

58803. *Berberis virescens* Hook. f. Berberidaceæ. Barberry.

The outstanding features of this Himalayan barberry are its elegant habit and the red tinge of its stems in winter. It is a deciduous shrub 6 to 9 feet in height, with smooth, reddish, shining branches, slender spines sometimes three-fourths of an inch in length, bright-green leaves, pale sulphur-yellow flowers, and slender reddish berries.

58804. *Ribes petraeum* Wulf. Grossulariaceæ.

Var. *biebersteini*. This variety of red currant is from the Caucasus, where it forms an upright shrub about 8 feet in height, with 5-lobed, heart-shaped leaves, reddish flowers, and red or dark-purple, acid fruits.

For previous introduction, see S. P. I. No. 52708.

58805. *Ribes warszewiczii* Jancz. Grossulariaceæ.

This Siberian species is closely allied to the northern red currant (*Ribes rubrum*) and bears large, purplish black, very acid fruits. It is an unarmed shrub about 5 feet high, with pinkish flowers in pendent racemes 2 inches in length.

58806. *Rubus idaeus* L. Rosaceæ. Raspberry.

Var. *leesi*. A simple-leaved form of the European red raspberry.

58807. *Viburnum burejaeticum* Regel and Herd. Caprifoliaceæ.

A northern Chinese species allied to the Way-faring tree (*Viburnum lantana*); the flowers are produced in dense cymes 2 inches across, and the fruits are ovoid and bluish black.

For previous introduction, see S. P. I. No. 57366.

58808. *Viburnum rhytidophyllum* Hemsl. Caprifoliaceæ.

A hardy evergreen shrub about 10 feet in height, which is one of the most striking of all the viburnums because of its bold, wrinkled, shining leaves and red fruits. The leaves are sometimes over 7 inches in length, and the dull-white flowers are in large terminal clusters 4 to 8 inches across. Native to central and western China.

For previous introduction, see S. P. I. No. 53750.

58809. *Prunus armeniaca* L. Amygdalaceæ. Apricot.

From Tripoli, Libia, North Africa. Seeds presented by E. O. Fenzi. Received March 13, 1924.

Ain thor (bull's eye); also bergsam. A very large tree, taller and more vigorous than any other kind; leaves thin, irregularly toothed; fruit globular, with hardly any groove, weight 40 grams, diameter 40 millimeters; skin scarcely tomentose, reddish yellow, adhering closely to the flesh; flesh more juicy than that of any other kind, with flavor more like that of a plum than an apricot, adhering closely to the smooth stone. Not common. (Fenzi.)

58810. *Juglans insularis* Griseb. Juglandaceæ. Cuban walnut.

From Santiago de las Vegas, Cuba. Seeds presented by Prof. Gonzalo M. Fortun, acting director, Estación Experimental Agronómica. Received March 13, 1924.

Nuts collected in our arboretum from trees grown from seeds obtained near Trinidad, San Juan de Letran. (Fortun.)

This interesting Cuban tree is found in the mountainous sections of the island, sometimes at considerable elevations. I have seen it in the mountains near Trinidad, on the south coast, at an elevation of about 2,000 feet, growing among numerous other trees along the banks of a small stream. It seems, however, to be comparatively rare and does not occur in great numbers. It is erect and slender in habit, growing to a height of 40 or more feet, with foliage somewhat finer than *Juglans nigra* of the United States. The nuts resemble those of *J. nigra* in size and appearance, though sometimes smaller. The kernels, however, are removed with difficulty, the septæ being very thick and woody. In its present wild state the Cuban walnut, as it is called, does not seem of great horticultural value, but with a little improvement by selection it might become an excellent nut for tropical regions. It has been suggested that it might serve as a stock for the Persian walnut, making possible the culture of this species in Cuba and other tropical regions where it is not now successfully grown. (Wilson Popenoe, Bureau of Plant Industry.)

For illustrations of the tree and fruit, see the Journal of Heredity, vol. 6, p. 561, December, 1915.

For previous introduction, see S. P. I. No. 43052.

58811 to 58813.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received March 13, 1924.

Introduced for horticulturists engaged in small-fruit breeding.

58811. *Ribes* sp. Grossulariaceæ.

No. 2706. Hers. From China.

58812. *Viburnum buddleifolium* C. H. Wright. Caprifoliaceæ.

A deciduous shrub about 6 feet high, with narrowly oblong, shallow-toothed leaves, downy beneath, 3 to 5 inches long; white, funnel-shaped flowers in cymes about 3 inches wide, and oval, black fruits about one-third of an inch long. Native to central China.

58813. *Viburnum rhytidophyllum* Hemsl. Caprifoliaceæ.

For previous introduction and description, see S. P. I. No. 58808.

58814. *Trifolium pratense* L. Fabaceæ. Red clover.

From Warsaw, Poland. Seeds presented through Leo J. Keena, American consul general. Received March 15, 1924.

Locally grown seeds introduced for clover specialists.

58815. SOLANUM TUBEROSUM L. Solanaceae. Potato.

From Trujillo, Peru. Tubers presented by A. Martin Lynch. Received March 15, 1924.

These are considered the standard variety for northern Peru. They appear to be drought resistant. (Lynch.)

The yellow-fleshed potato is one of the most interesting varieties found in the Andean Region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as some other varieties; but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor suggesting that of the chestnut. It seems to me the variety might be improved, so as to do away with the objectionable deep eyes, and it would then be worth extensive cultivation. (Wilson Popenoe, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 56803.

58816. ZEA MAYS L. Poaceae. Corn.

From Addis Ababa, Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received February 26, 1924.

(No. 336. November 17, 1923.) Purchased in the market. (Harlan.)

58817 to 58839.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received March 15, 1924. Notes by Mr. Rock.

58817. ACER sp. Aceraceae. Maple.

(No. 11402. November, 1923.) A tree 60 to 80 feet tall, with a large crown and a trunk about 3 feet in diameter, which grows along watercourses at the foot of the Likiang Snow Range at an altitude of about 9,000 feet.

58818. BENZOIN sp. (Lindera sp.). Lauraceae.

(No. 11384. Champutong. November, 1923.) A tree 25 feet high from the Salwin Valley, Tibetan border, at 8,000 feet altitude. The oval, acute, pubescent leaves are brown beneath, and the red ovoid fruits are fragrant. This is similar to the Tengyueh species (S. P. I. No. 56292).

58819. CASTANOPSIS sp. Fagaceae.

(No. 11491. Lautchunshan. November, 1923.) A tree about 50 feet tall, which grows in forests at 8,000 feet altitude. The leathery, serrate leaves are oblong and acuminate, and the small nuts are in thick spikes.

58820. COTONEASTER sp. Malaceae.

(No. 11360. Karila. December, 1923.) A shrub or small tree, about 20 feet high, growing in a deciduous forest at 12,000 feet altitude. It has small, oval leaves and black fruits.

58821. COTONEASTER sp. Malaceae.

(No. 11481. November, 1923.) A shrub about 5 feet high from the drier slopes of the Likiang Snow Range at an altitude of about 10,000 feet. It has small, oval leaves, pale beneath, and globose, scarlet fruits.

58822. ERIOBOTRYA sp. Malaceae.

(No. 11451. Sungkwe. November, 1923.) An attractive shrub 4 feet high, found in rather dry places at 8,000 feet altitude. It has pale-green, roundish, serrate leaves and corymbs of carmine fruits.

58823. EUONYMUS sp. Celastraceae.

(No. 11394. Ganhaitze. November, 1923.) A tree about 40 feet high, from the eastern slopes of the Likiang Snow Range, where it grows at an altitude of 10,000 feet. The leaves are rich green, and the pink fruits, with dark-red seeds, are in large umbels.

58817 to 58839—Continued.**58824. JUNIPERUS sp. Pinaceae. Juniper.**

(No. 11353. November, 1923.) A tree 50 feet tall, with dark-green branches, which covers the eastern slopes of Peimashan at altitudes of 13,000 to 15,000 feet on the Yangtze-Mekong Divide. The glaucous fruits are deep bluish black.

58825. JUNIPERUS sp. Pinaceae. Juniper.

(No. 11475. November, 1923.) A shrub 8 feet high which grows in rocky limestone soil opposite the Likiang Snow Range at an altitude of about 9,000 feet. It has globose, orange-red fruits.

58826. MAGNOLIA sp. Magnoliaceae.

(No. 11215. Mount Kenichunpu. October, 1923.) A tree 30 feet high, from the Salwin-Irrawaddy Divide, where it grows at an altitude of 12,000 feet. It has large white flowers and very large leaves, 1 or 2 feet long and a foot broad, glaucous beneath.

58827. MAGNOLIA sp. Magnoliaceae.

(No. 11232. Mount Kenichunpu. October, 1923.) A very ornamental tree 35 feet high which grows at an altitude of 11,000 feet on the Salwin-Irrawaddy Divide, Tibetan border. It has small, oval, smooth leaves and large white flowers.

58828. MALUS YUNNANENSIS (Franch.) C. Schneid. (Pyrus yunnanensis Franch.). Malaceae.

(No. 11398. Ganhaitze. November, 1923.) A very attractive tree about 25 feet high, which grows in forests at an altitude of 11,000 feet. It has yellowish red fruits the size of cherries and large, crenate, hairy leaves.

58829. NOMOCHARIS PARDANTHINA Franch. Liliaceae.

(No. 10249. Champutong. October, 1923.) A beautiful liliaceous plant about 3 feet high, which grows on grassy slopes on the outskirts of forests in the Salwin Valley, at an altitude of about 9,000 feet. The leaves are ternate and the large flowers, white, pink, purple, or red, with deep irregular purple blotches, have salver-shaped corollas.

58830. OSMANTHUS sp. Oleaceae.

(No. 11444. November, 1923.) An exceedingly handsome shrub about 4 feet in height from an altitude of 10,000 feet on the Likiang Snow Range. It has small, oval, serrate leaves, numerous cream-colored flowers, and ovoid, blue-black fruits.

58831. PHOTINIA sp. Malaceae.

(No. 11479. Saba. November, 1923.) A small tree, 10 feet in height, growing in a forest on the Likiang Snow Range at 11,000 feet altitude. The oblong, glossy leaves have red midribs and petioles. The flowers are white and the rich-crimson fruits are in large corymbs.

58832. PRUNUS sp. Amygdalaceae. Cherry.

(No. 11221. Champutong. October, 1923.) A red-flowered tree 15 feet high, from an altitude of about 13,000 feet in the Salwin Valley. The fruits are ovoid and red.

58833. PRUNUS sp. Amygdalaceae. Cherry.

(No. 11237. Mount Kenichunpu. October, 1923.) A dwarf cherry which grows as a shrub 4 feet high at an altitude of about 13,000 feet on the Salwin-Irrawaddy Divide, Tibetan border. It has oval, serrate leaves, red flowers, and ovoid black fruits.

58834. PYRUS sp. Malaceae. Pear.

(No. 11480. November, 1923.) A tree 20 feet high, found along stream beds at the foot of and on the slopes of the Likiang Snow Range at about 10,000 feet altitude. It is a handsome species, with large crenate leaves white-tomentose beneath, white flowers, and yellowish red fruits the size of a cherry.

58817 to 58839—Continued.

58835. PYRUS sp. Malaceæ.

Pear.

(No. 11492. Lauthunshan. November, 1923.) A handsome tree about 25 feet high, with leaves white hairy beneath and corymbs of red fruits. It grows at an altitude of about 10,000 feet.

58836. SLOANEA sp. (*Echinocarpus* sp.). Elæocarpaceæ.

(No. 11236. Mount Kenichunpu. October, 1923.) A very ornamental tree 30 feet high, which grows on the Salwin-Irrawaddy Divide, at 9,000 feet altitude. The oblong, crenate leaves are hairy beneath, and the fruit capsules are covered with pale, straw-colored bristles.

58837. SORBUS sp. Malaceæ.

(Karila. December, 1923.) A deciduous tree 20 feet high which grows at an altitude of 13,000 feet. It has white fruits with a pinkish tinge.

58838. TSUGA YUNNANENSIS (Franch.) Masters. Pinaceæ. Hemlock.

(No. 11493. November, 1923.) A tall tree, 80 feet or more in height, with a straight trunk about 5 feet in diameter and small cones, which grows in mixed forests on the western slopes of the Likiang Snow Range at 10,000 feet altitude.

58839. (Undetermined.)

(No. 11359. December, 1923.) A very handsome tree about 50 feet tall, which is common on rocky slopes of the Yangtze River embankments at Gohinda, north of Luku. It has glossy, dark-green, crenate leaves, large terminal corymbs of small white flowers, and very attractive crimson fruits.

58840. CITRUS GRANDIS (L.) Osbeck. Rutaceæ. Grapefruit.

From Ancon, Canal Zone. Budwood presented by W. T. Robertson, Pedro Miguel, Canal Zone, through James Zetek, Ancon. Received March 21, 1924.

This is a rare and interesting variety of grapefruit, said to produce fruits with juicy flesh of blood-red color. Its origin is uncertain, but it seems probable that it was brought from Asia in the early days of trans-Isthmian travel. Red-fleshed grapefruits or pomelos are common in India, but they usually lack juice and are very different from the grapefruit of Florida in general character. Some of the Indian varieties have been introduced into the United States, where they have failed to become popular. A pink-fleshed grapefruit, which originated in Florida as a bud sport from one of the standard commercial sorts, has met with a more favorable reception, but has not attained commercial importance.

If the variety which Mr. Robertson has sent proves to be of good quality and at the same time has flesh of attractive red color, it should prove a novelty of much interest. In forwarding the budwood his letter states: "In one of the oldest towns of the Republic of Panama, about 8 miles from the canal, I found three trees of the blood-red grapefruit. I was told by one of the oldest inhabitants that these were the original trees, all the others in the vicinity being seedlings from them. These three trees have never been cared for, but were simply planted and allowed to grow up in the jungle, without pruning, spraying, or fertilizing. They appear to be at least 40 years old and are about 50 feet high."

58841. FRAGARIA sp. Rosaceæ.

Strawberry.

From Woodbridge, England. Plants purchased from R. C. Notcutt. Received March 26, 1924.

"*Dreadnought*. Plant of close, compact growth; fruit large, of excellent flavor; season medium." (Notcutt, 1923-24, *Catalogue*, p. 10.)

Introduced for horticulturists engaged in strawberry breeding.

58842 to 58849. FRAGARIA spp. Rosaceæ. Strawberry.

From Bedford, England. Plants purchased from Laxton Bros. Received March 26, 1924. Quoted notes from the catalog of Laxton Bros., unless otherwise stated.

58842. FRAGARIA sp.

"*Black Prince*. Very early, with small, dark-colored fruits of good flavor; much grown for earliest supplies for preserving."

For previous introduction, see S. P. I. No. 56160.

58843. FRAGARIA sp.

"*Elton Pine*. A very late, hardy variety which bears well. The somewhat acid fruits are useful for preserving."

58844. FRAGARIA sp.

"*Grove End Scarlet*. An old, well-known, midseason variety. The small, round fruits are preserved whole."

58845. FRAGARIA sp.

Ruskin. A variety said to be grown for jam making in the Clyde Valley, Scotland.

58846. FRAGARIA sp.

"*Sir Joseph Paxton*. The main-crop variety most widely grown for market. Fruit rich crimson, with firm flesh."

58847. FRAGARIA sp.

"*The Duke*. A very vigorous variety which will grow in almost any soil where strawberries can be cultivated. It is earlier and bears a heavier crop of better flavored fruits than the 'Royal Sovereign.' The fruit is brilliant scarlet, conically oval, and borne on long, erect trusses. The flesh is highly flavored and firm, so that the berries ship well. The variety is excellent for forcing."

58848. FRAGARIA sp.

"*The Earl*. This may be best described as a much-improved Vicomtesse de Thury, larger in size, more vigorous, and free cropping. Season late." (*Bunyard's Catalogue of Fruit Trees*.)

For previous introduction, see S. P. I. No. 56171.

58849. FRAGARIA sp.

"*Vicomtesse H. de Thury*. An early variety, with small, rich-flavored fruits; much grown for preserving."

58850. ANNONA DIVERSIFOLIA Safford. Annonaceæ. Ilama.

From El Barranquillo, Guatemala. Seeds purchased from Fernando Carrera, through Philip Holland, American consul, city of Guatemala, Guatemala. Received March 20, 1924.

For several years this office has been engaged in establishing the ilama in southern Florida, where the first fruits were produced by trees at the Miami Plant Introduction Garden in the summer of 1923. Our experience up to the present indicates that this species seems likely to prove much better adapted to the climatic conditions of that region than the cherimoya (*Annona cherimola*).

The ilama may be termed the cherimoya of the lowlands. The cherimoya does not succeed in the Tropics unless grown at altitudes of 4,000 to 6,000 feet, where the climate is cool. The ilama, on the other hand, belongs to the lowlands, but is strikingly similar in character to a good cherimoya. It is a valuable recruit and one which can not be too strongly recommended for cultivation throughout the Tropics. (Wilson Popenoe, *Bureau of Plant Industry*.)

For previous introduction, see S. P. I. No. 58030.

58851. CRYPTOSTEGIA GRANDIFLORA R.
Br. Asclepiadaceæ. **Palay rubber.**

Growing at the Chapman Field Plant Introduction Garden, Coconut Grove, Fla., under P. I. G. No. 514. Numbered March, 1924.

Introduced for trial as a source of rubber.

An erect, woody climber of unknown nativity, but now cultivated in many places in the Tropics of both hemispheres as an ornamental, and occasionally growing as an escape from cultivation. The flowers, reddish purple becoming pale pink, are about 2 inches across and are produced in short spreading cymes. In India the plant is called palay and is cultivated for the rubber obtained from the juice.

58852 and 58853.

From Brooklyn, N. Y. Seeds presented by the curator of plants, Brooklyn Botanic Garden. Received March 20, 1924.

58852. LOTUS REQUIENI Mauri. Fabaceæ.

A hairy leguminous perennial, of erect or ascending habit, native to Italy, introduced for forage-crop specialists.

58853. PHALARIS ARUNDINACEA L. Poaceæ.
Ribbon grass.

Var. *picta*. The typical form of this species has proved a promising forage grass for wet land in the northern Pacific Coast States and also in the western Rocky Mountain region. This variety has been obtained for forage-crop specialists.

58854. TRIFOLIUM FRAGIFERUM L. Fabaceæ.

From Sydney, New South Wales. Seeds presented by A. J. Bristol, Takoma Park, D. C., through A. J. Pieters, Bureau of Plant Industry. Received August, 1922. Numbered March, 1924.

Shearman's clover was accidentally discovered at Fullerton Cove near New Castle, New South Wales, by a man named Shearman. The Australian literature gives the information that it is a very rapidly growing plant and does well in moist situations. It appears to be a sport from *Trifolium fragiferum*, at least all its morphological characters point to such a conclusion. The variety is largely sterile, although not wholly so, since some seeds have been found at the Arlington Farm, Va., and in Oregon and Idaho.

The probable use of this plant will be as a leguminous grazing crop in permanent pastures. The lack of an abundant seed supply will prevent its use as a rotation crop. (*Pieters*.)

For previous introduction, see S. P. I. No. 56551.

58855 to 58858. TRIFOLIUM PRATENSE L. Fabaceæ. **Red clover.**

From Warsaw, Poland. Seeds presented through Leo J. Keena, American consul general. Received March 27, 1924.

Locally grown seeds introduced for clover specialists.

58855. From Pultusk, near Warsaw.

58856. From Nowo Radomskie.

58857. From Bonskie.

58858. From Lomzynskie.

58859 to 58862. TRIFOLIUM PRATENSE L. Fabaceæ. **Red clover.**

From Moravia, Czechoslovakia. Seeds presented by Dr. Rudolf Kuraz, agricultural attaché, Czechoslovak Legation, Washington, D. C. Received March 20, 1924.

Locally grown strains introduced for clover specialists.

58859 to 58862—Continued.

58859. From Hrotovicko.

58860. From Trebic.

58861. From Pribor.

58862. From Mor. Budejovice.

58863 to 58865.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received March 20, 1924.

Introduced for forage-crop specialists.

58863. ERODIUM TRICHOMANEFOLIUM L'Her. Geraniaceæ.

A low herbaceous perennial, 4 to 6 inches high, native to hilly places in Syria. The narrowly oblong leaves are deeply cut, and the flowers are flesh colored, marked with darker veins.

58864. ERODIUM sp. Geraniaceæ.

Received as *Erodium willmottianum*, for which a place of publication has not been found.

58865. PIPTANTHUS NEPALENSIS (Hook.) Sweet. Fabaceæ.

A fairly hardy evergreen climber, native to southwestern China and northeastern India, which becomes about 10 feet in height, with deep-green trifoliate leaves and handsome yellow flowers an inch or more in length.

For previous introduction, see S. P. I. No. 49645.

58866 to 58898.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received March 20, 1924.

Introduced for agronomists experimenting with crop plants.

58866. AGROPYRON PUNGENS (Pers.) Roem. and Schult. Poaceæ. **Grass.**

A wide-creeping grass, with stout, white runners and stems about a foot high. The leaf blades are compact and often bristly. Native to sandy places along the seacoast of southern Europe.

58867. AGROSTIS sp. Poaceæ. **Grass.**

The genus *Agrostis* contains a number of species important as forage grass. This species was received as *Agrostis canina*, but does not agree with material in the National Herbarium; it will be tested by department agronomists.

58868 to 58886. ALLIUM spp. Liliaceæ.

A collection of Alliums introduced for department horticulturists studying food possibilities of wild members of the genus.

58868. ALLIUM ALBOPILOSUM C. H. Wright.

A Transcaspien species which has probably the largest flowers of the genus. The bulbs are large, and the strap-shaped leaves, 18 inches in length, have longitudinal lines of white hairs beneath and on the edges. The scape is nearly 2 feet high and bears large heads 9 inches across, each composed of from 60 to 80 deep-lilac flowers.

58869. ALLIUM CANADENSE L.

The well-known wild garlic, native to temperate North America. Because of its great variability and its rare seeding in the United States, seeds have been obtained from a foreign source.

58870. ALLIUM FISTULOSUM L. Welsh onion.

A Siberian species which differs from the common onion in having no distinct bulb, but only an enlarged base or crown; the leaves are usually more clustered.

For previous introduction, see S. P. I. No. 58679.

58866 to 58898—Continued.

58871. *ALLIUM GIGANTEUM* Regel.

One of the tallest members of the genus, becoming 4 feet in height. It is native to the Himalayas. The bulbs are large, and the fleshy leaves are about 18 inches in length. The bright-lilac flowers are in heads 4 inches in diameter.

58872. *ALLIUM GRANDE* Lipsky.

A Caucasian species with a scape 3 feet or more in height, wide-margined leaves 10 to 12 inches long, and many-flowered umbels of pinkish white flowers. (Adapted from *Acta Horti Petropolitani*, vol. 13, p. 343.)

58873. *ALLIUM HELDREICHII* Boiss.

A Grecian species, a foot or less in height, with thin terete leaves shorter than the scape and rosy flowers.

58874. *ALLIUM KARATAVIENSE* Regel.

A herbaceous plant with very broad, oval-oblong, flat leaves, and pink flowers borne in dense, convex umbels. The scapes are about 6 inches high. Native to Turkestan.

58875. *ALLIUM MACRANTHUM* Baker.

A handsome herbaceous perennial from the eastern Himalayas. The flat leaves are over a foot long, and the mauve-purple flowers are produced in clusters of 50 or more on scapes 2 feet high.

58876. *ALLIUM MONTANUM* F. W. Schmidt.

A rather variable species, distributed from eastern Europe through Siberia in dry rocky places. It is usually a low plant, with narrow leaves and a hemispherical head of lilac-purple flowers.

58877. *ALLIUM NEAPOLITANUM* Cirillo.

A southern European species, about a foot and a half high, with flat leaves and very ornamental white flowers.

58878. *ALLIUM NIGRUM* L.

A tall species, about 3 feet in height, native to southern Europe. The dull-violet or whitish flowers are produced in summer.

58879. *ALLIUM ODORUM* L.

This onion, which grows wild in Europe, is cultivated in Japan for its leaves, which are eaten as greens; in the spring the leaves are borne luxuriantly by the old bulbs, becoming about a foot in length.

For previous introduction, see S. P. I. No. 55442.

58880. *ALLIUM OSTROWSKIANUM* Regel.

This species, native to Turkestan, has rose-colored flowers produced freely in many-flowered umbels on scapes 6 inches high.

58881. *ALLIUM ROSEUM* L.

A plant about a foot in height, with strap-shaped leaves rolled inward at the top and pale lilac-rose flowers produced in umbels. Native to southern Europe.

58882. *ALLIUM SCORZONERAEFOLIUM* DC.

A species of unknown origin, cultivated in European gardens. It has very narrow concave leaves and small, yellow flowers in a few-flowered umbel.

58883. *ALLIUM SICULUM* Ueria.

A handsome biennial, native to Sicily, with broad, flat leaves and scapes 3 feet or more in height. The dull, purplish flowers are borne in drooping umbels. The species is characterized by a very strong odor when bruised.

58866 to 58898—Continued.

58884. *ALLIUM SIKKIMENSE* Baker.

A compact, neat little perennial 6 inches high or more, with grasslike leaves and loose umbels of deep-blue flowers. Native to Sikkim, India.

58885. *ALLIUM TUBEROBN* Freyn.

A species from Asia Minor with ovoid bulbs about an inch and a quarter long, oval or oval-lanceolate leaves about 10 inches long, and rosy red flowers produced on a scape nearly 2 feet high. (Adapted from *Mémoires de l'Herbier Bossier*, No. 13, p. 32.)

58886. *ALLIUM* sp.

Received as *Allium huteri*, for which a place of publication has not been found.

58887. *BETA TRIGYNA* Waldst. and Kit. Chenopodiaceæ.

Introduced for plant breeders.

A hardy herbaceous white-flowered perennial, about 3 feet in height, native to Hungary.

58888. *BETA VULGARIS* L. Chenopodiaceæ. Beet.

Seeds of what is said to be the wild form of the cultivated beet, introduced for cultural tests.

58889. *BRACHYPODIUM DISTACHYUM* (L.) Beauv. Poaceæ. Grass.

For previous introduction and description, see S. P. I. No. 58695.

58890. *BRACHYPODIUM PINNATUM* (L.) Beauv. Poaceæ. Grass

A perennial grass native to Europe, having much the same general habits as timothy. It will probably prove a valuable plant for semiarid places.

58891 to 58893. Introduced for strawberry specialists.

58891. *DUCHESNEA INDICA* (Andrews) Focke (*Fragaria indica* Andrews.). Rosaceæ.

English-grown seed of an Eurasian plant common as a weed in the United States.

58892. *FRAGARIA CALIFORNICA* Cham. and Schlecht. Rosaceæ. Strawberry.

A wild strawberry from the Coast Range of California, with light-green, hairy leaflets, flowers in pairs, and globose white fruits about one-third of an inch in diameter.

58893. *FRAGARIA* sp. Rosaceæ. Strawberry.

Received as *Fragaria chinensis*, for which a place of publication has not been found.

58894. *LATHYRUS NIGER* (L.) Bernh. Fabaceæ.

An erect or ascending; slender, branched species 1 or 2 feet in height, with light-green leaflets and small, blue flowers. It has short rootstocks and succeeds well in partial shade. Native to central Europe.

58895. *PHALARIS BULBOSA* Jusl. Poaceæ. Grass.

A tufted, perennial grass, native to the Mediterranean countries, with coarse, stiff stems 3 to 4 feet in height. It makes good hay if cut as soon as the flower heads begin to appear and will stand a considerable amount of pasturing.

For previous introduction, see S. P. I. No. 55067.

58896. *RUBUS LASIOSTYLUS* Focke. Rosaceæ.

A wild raspberry from western China, with bluish white, bristly stems, small, pinnate leaves, silvery beneath, magenta flowers, and rose-colored, woolly fruits which are sweet but said to be of little use for eating.

58866 to 58898—Continued.

58897. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soybean.

An unknown variety from which desirable strains may be obtained.

58898. STIPA sp. Poaceae. Grass.

Received as *Stipa papposa*, but does not agree with material in the National Herbarium.

58899. LANDOLPHIA KIRKII DELAGOENSIS Dewevre. Apocynaceae.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, division of botany. Received March 12, 1924.

This vine appears to be confined more or less to the Delagoa Bay region, and probably resembles very closely the species *Landolphia kirkii*, whose distribution extends as far north as Abyssinia and as far south as Zululand. *Landolphia kirkii*, which is regarded as the most important rubber vine in East Africa, being the source of "Zanzibar rubber," assumes a low-growing habit in dry regions, whereas under a heavy rainfall this same species may attain a height of 100 feet or more, with a stem measuring up to 10 or 12 inches in diameter.

If the quantity and quality of the rubber in the variety *delagoensis* is equal to that of the species, a valuable addition will have been made to the collection of rubber plants now being brought together for investigational purposes in southern Florida. (Alfred Keys, Bureau of Plant Industry.)

58900. EUPHORBIA FULVA Stapf. Euphorbiaceae.

Growing at the Chapman Field Garden, Coconut Grove, Fla., under P. I. G. No. 555. Numbered March, 1924.

Introduced for trial as a source of rubber.

The "Palo amarillo," as this tree is called in southwestern Mexico, produces latex which consists of a mixture of rubber and resin, and its value as a source of rubber appears to depend on the working out of a practical method for separating the resin from the rubber. This has already been done experimentally, both the rubber and resin proving to be of good quality.

The tree is about 30 feet high, with smooth, yellow bark, and grows in rocky soil in southern and western Mexico at altitudes of 5,000 to 6,000 feet. This information is based on an article appearing in the Kew Bulletin of Miscellaneous Information for 1907, page 294.

58901 to 58930.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received March 21, 1924.

58901 to 58903. ACER spp. Aceraceae. Maple.

58901. ACER CAMPBELLII Hook. f. and Thoms.

The pleasing contrast of the bright-green leaves and red stalks of this Himalayan maple make it worthy of a trial as an ornamental shade tree for the warmer parts of the United States. In its native country the grayish white, moderately hard timber is used for cabinetwork and for planking.

For previous introduction, see S. P. I. No. 55669.

58902. ACER HOOKERI Miquel.

A handsome tree 40 to 50 feet high, with deeply fissured brown bark, native to the Sikkim Himalayas at altitudes of 8,000 to 10,000 feet. The oval leaves, though usually

58901 to 58930—Continued.

green, are sometimes copper colored. The wood is gray with small pores and very numerous, fine, red, medullary rays.

For previous introduction, see S. P. I. No. 56454.

58903. ACER LAEVIGATUM Wall.

A Himalayan maple whose broad, low crown suggests it for planting as a park tree in mild-wintered regions of the United States. The bark is yellowish or dark ash colored, and the leaves are a pleasing green. The hard, close-grained wood is shining white and is popular in Nepal for building purposes.

For previous introduction, see S. P. I. No. 50360.

58904. BUDDLEIA COLVILEI Hook. f. Loganiaceae.

With large, loose, terminal clusters of crimson flowers and dark-green leaves, this Himalayan relative of the well-known butterflybush has been called by some authorities the handsomest of the genus. It is a shrub or small tree, 30 to 40 feet high, and has proved hardy in some parts of England and Scotland.

For previous introduction, see S. P. I. No. 55675.

58905. CALICARPA RUBELLA Lindl. Verbenaceae.

The chief attraction of this small Chinese shrub is its appearance in the fruiting stage, with its dense cymes of small, purple berries. The flat, yellowish green leaves, 4 to 5 inches long, contrast pleasingly with the small, pink flowers.

For previous introduction, see S. P. I. No. 47651.

58906. ENKIANTHUS DEFLEXUS (Griffith) C. Schneid. (*E. himalaicus* Hook. f. and Thoms.). Ericaceae.

The whorled branches of this Himalayan shrub are characteristic of the entire genus and give the plant a peculiar appearance. The margins and petioles of the young leaves are red. The flowers, produced in dense, drooping racemes, have yellow corollas, striped dark red with darker lobes.

For previous introduction, see S. P. I. No. 49634.

58907. ERYTHRINA ARBORESCENS Roxb. Fabaceae.

When covered with its bright-scarlet flowers this small tree is very attractive and is often planted as an ornamental in the streets of Darjiling. There are but few prickles on its branches, and the thin, greenish leaves are often a foot in width. The strongly curved pods are about an inch wide and 6 to 9 inches long. The tree is found native in the central and eastern Himalayas at altitudes ranging up to 7,000 feet.

For previous introduction, see S. P. I. No. 55680.

58908 to 58910. MICHELIA spp. Magnoliaceae.

58908. MICHELIA CATHCARTII Hook. f. and Thoms.

A lofty tree with magnoliolike foliage and terminal white flowers about an inch in diameter. It is native in the temperate forests of the Sikkim Himalayas, where the moderately hard, dark-brown heartwood is used for planking and for making tea boxes.

For previous introduction, see S. P. I. No. 55689.

58901 to 58930—Continued.

58909. *MICHELIA EXCELSA* Blume.

As ornamental plants for the warmer portions of the United States the various species of magnolias have acquired great and well-deserved popularity, and it may be expected that *Michelia excelsa*, which belongs to the same family, will some day be widely cultivated in the southernmost parts of this country. This tall tree is native in the temperate Himalayas of northeastern India at altitudes of about 5,000 feet. The large, narrow leaves are silky brown beneath, and the beautiful, white flowers are 4 or 5 inches across.

For previous introduction, see S. P. I. No. 55690.

58910. *MICHELIA LANUGINOSA* Wall.

This species is characterized by the white woolly lower surfaces of its long, narrow, magnoliolike leaves. The white, solitary flowers are 3 to 4 inches across. Although this species is a spring-flowering tree in northern India, where it is native, in Sikkim it is said to form an autumn-flowering bush.

For previous introduction, see S. P. I. No. 55691.

58911. *NYSSA SESSILIFLORA* Hook. f. and Thoms. Cornaceæ.

An Asiatic relative of the black gum (*Nyssa sylvatica*), which is a tree 60 feet tall, with oblong, punctate leaves. The soft, gray, even-grained wood is used for building purposes.

For previous introduction, see S. P. I. No. 47741.

58912. *PICEA MORINDOIDES* Rehder. Pinaceæ. Spruce.

A Himalayan spruce of spreading habit, with slender pendulous branchlets. It becomes over 200 feet tall. The young cones are purple, turning to a pale brown when mature.

58913. *PICEA SMITHIANA* (Wall.) Boiss. (*P. morinda* Link.). Pinaceæ. Spruce.

The Himalayan spruce is a lofty tree found in the mountains of northwestern India at altitudes of 7,000 to 11,000 feet; the terminal, drooping, pale-green cones are 4 to 6 inches long. The stiff, sharp, spirally arranged green leaves are crowded into hanging, taillike twigs when young. The wood is extensively used for rough furniture and planking.

For previous introduction, see S. P. I. No. 55694.

58914 to 58930. *RHODODENDRON* spp. Ericaceæ.58914. *RHODODENDRON ANTHOPOGON* Don.

A small shrub, 1 foot high, with rough, densely scaly branches and leaves which are 1½ inches long, cinnamon brown beneath and, as it were, tomentose from the layer of glands. The yellow flowers are in numerous short terminal fascicles.

For previous introduction, see S. P. I. No. 49648.

58915. *RHODODENDRON BARBATUM* Wall.

The deep-red flowers of this arborescent rhododendron are borne in many-flowered heads. The bristly stemmed, oblong leaves are normally about 6 inches in length. In its native home in the temperate Himalayas this tree becomes 30 to 40 feet in height.

58916. *RHODODENDRON CAMELLIAEFLOREM* Hook. f.

A Himalayan rhododendron, 2 to 6 feet tall, with very thick, deep-green, leathery leaves and pure white or faintly pinkish flowers about 1½ inches wide.

For previous introduction, see S. P. I. No. 47851.

58901 to 58930—Continued.

58917. *RHODODENDRON CAMPANULATUM* Don!

A large evergreen shrub of stiff, spreading habit, sometimes as much as 12 feet in height, with oval leaves which are densely covered beneath with a red-brown felt. The flowers, produced during April in rather loose clusters about 4 inches wide, are various shades of rosy purple and about 2 inches across. This species, native to Sikkim and Nepal, is one of the hardier Himalayan rhododendrons, and in England it thrives in the vicinity of London.

58918. *RHODODENDRON CAMPYLOCARPUM* Hook. f.

The foliage of this small, roundish bush is a bright, cheerful green, and contrasts splendidly with the numerous clusters of pale-yellow, slightly fragrant flowers. In Sikkim, India, where it is native, it grows at an altitude of 12,000 feet.

58919. *RHODODENDRON CILIATUM* Hook. f.

A Himalayan rhododendron, of somewhat dwarf habit, bearing many small, loose trusses of pinkish white flowers less than 3 inches wide. It rarely exceeds 6 feet in height.

For previous introduction, see S. P. I. No. 55698.

58920. *RHODODENDRON DALHOUSIAE* Hook. f.

This is said to be the finest rhododendron from northeastern India, chiefly because of the great size and beauty of the fragrant, white flowers, which resemble large lilies. It is a straggling shrub, 6 to 8 feet high, with smooth, dark-green leaves. The flowers, which occur in terminal clusters of three to five, are nearly 5 inches across.

For previous introduction, see S. P. I. No. 55699.

58921. *RHODODENDRON FALCONERI* Hook. f.

This shrub or tree, which sometimes attains a height of 30 feet, is native to northeastern India. The large, deep-green leaves, sometimes a foot long, and the whitish, densely clustered flowers make it a very fine ornamental.

For previous introduction, see S. P. I. No. 55700.

58922. *RHODODENDRON FULGENS* Hook. f.

A shrubby rhododendron, 6 to 12 feet high, from the alpine regions of the Himalayas, closely allied to *Rhododendron campanulatum*. It is chiefly distinguished by its blood-red flowers, about an inch wide and crowded in hemispherical trusses over 3 inches in width. It is native to Nepal and Sikkim, India, at altitudes of 10,000 to 14,000 feet.

58923. *RHODODENDRON GRANDE* Wight.

A handsome shrub about 15 feet high, native to the Himalayas. It bears numerous loose trusses of bell-shaped flowers about 2½ inches in diameter. These are at first suffused with a faint rose tint which later changes to white.

For previous introduction, see S. P. I. No. 47775.

58924. *RHODODENDRON HODGSONII* Hook. f.

This is considered one of the finest rhododendrons for foliage; the leathery, dark-green leaves are up to 18 inches in length, glossy above and covered with a brownish red down beneath. The rosy lilac flowers, 2 inches across, are in dense rounded trusses about 6 inches wide.

58901 to 58930—Continued.

58925. RHODODENDRON LANATUM Hook. f.

This species grows wild on the rocky spurs of the humid mountains and in gullies of the Sikkim Himalayas at altitudes of 10,000 to 12,000 feet. It is a large shrub or small tree, with the trunk 6 inches in diameter at the stoutest part, irregularly and repeatedly branching. The branches are much gnarled and bare of leaves and are covered with a dark-colored rugged bark, very different from the prevailing beautiful papery clothing of the genus. The flowers are a pale sulphur color.

58926. RHODODENDRON LEPIDOTUM Wall.

A very distinct evergreen species from the Himalayas and western China. It grows about 1½ feet high, forming a compact bush which produces during May numerous curious flat, purple or reddish blossoms.

For previous introduction, see S. P. I. No. 49649.

58927. RHODODENDRON MADDENI Hook. f.

A shrub 6 to 8 feet high with red-stemmed, dark-green leaves. The large, delicately fragrant flowers, tinged with rose, are produced in trees at the ends of the branches. Native to the Himalayas.

For previous introduction, see S. P. I. No. 55701.

58901 to 58930—Continued.

58928. RHODODENDRON ROYLEI Hook. f. (*R. cinnabarinum* Hook. f.).

The flowers of this evergreen shrub, produced in terminal heads, are usually a dull, cinnabar red, but in some forms the corolla is orange-red on the outside and yellowish within. It is native to the mountainous regions of Sikkim and Bhutan, India.

For previous introduction, see S. P. I. No. 47777.

58929. RHODODENDRON THOMSONII Hook. f.

The rich, blood-red flowers of this shrubby Himalayan rhododendron are 2 to 3 inches across and are produced in loose clusters of six or seven flowers. The small, roundish oval, dark-green leaves have blue-white lower surfaces. This species is not able to withstand very low temperatures; it thrives in the extreme southwestern part of England.

58930. RHODODENDRON WIGHTII Hook. f.

This species has very handsome trusses of large, pale-yellow flowers. It grows abundantly in wooded valleys in the Himalayas and on the spurs of all the mountains at an altitude of 12,000 to 14,000 feet.

INDEX TO COMMON AND SCIENTIFIC NAMES

- Abies* spp., 58469, 58499, 58642.
 forrestii, 58468, 58641.
Acacia jonesii, 58585.
Acanthopanax sessiliflorum, 58603.
Acer spp., 58518, 58817.
 campbellii, 58901.
 hookeri, 58902.
 laevigatum, 58903.
Agropyron pungens, 58866.
Agrostis sp., 58867.
Ailanthus vilmoriniana, 58481.
Allium sp., 58886.
 albopilosum, 58868.
 angulosum, 58675.
 canadense, 58869.
 carinatum, 58676.
 cepa, 58677, 58678.
 fistulosum, 58679, 58870.
 giganteum, 58871.
 globosum, 58680.
 grande, 58872.
 heldreichii, 58873.
 karataviense, 58874.
 macranthum, 58875.
 moly, 58681.
 montanum, 58876.
 narcissiflorum, 58682.
 neapolitanum, 58877.
 nigrum, 58878.
 nutans, 58683.
 obliquum, 58684.
 odorum, 58879.
 ostrowskianum, 58880.
 porrum, 58685.
 roseum, 58881.
 sativum, 58686.
 schoenoprasum, 58687.
 scorodoprasum, 58688.
 scorzoneræfolium, 58882.
 siculum, 58883.
 sikkimense, 58884.
 spurium, 58689.
 tubergenii, 58885.
 ursinum, 58690.
 victoralis, 58691.
Amaranthus gangeticus, 58461.
Ampelocissus martini, 58670.
Ampelopsis megalophylla, 58647.
Amygdalus communis × *persica*, 58474.
Andropogon sp., 58726.
 ceresiaeformis, 58725.
Annona diversifolia, 58850.
Apple, Malus spp., 58534-58536.
 sylvestris, 58464.
Apricot, Prunus armeniaca, 58809.
Aralia pseudoginseng. See *Panax pseudoginseng*.
Astragalus alopecuroides, 58692.
 boeticus, 58693.
 poncticus, 58694.
Atalantia glauca. See *Eremocitrus glauca*.
Avena abyssinica, 58727.
 strigosa, 58728.

Barberry, Berberis spp., 58519-58522.
 B. replicata, 58463.
 veitchii, 58604.
 virescens, 58803.
Barley, deficient, Hordeum deficiens, 58747, 58748.
 naked, H. vulgare coeleste, 58530.
 six-rowed, H. vulgare coeleste, 58749.
 H. vulgare pallidum, 58750-58755.
Barringtonia asiatica, 58459.
Bauhinia heterophylla, 58624.
Bean, common, Phaseolus vulgaris, 58767-58770.
 broad, Vicia faba, 58798, 58799.
Beet, Beta vulgaris, 58888.
Benzoin sp., 58818.
Berberis spp., 58519-58522.
 replicata, 58463.
 veitchii, 58604.
 virescens, 58803.

Beta trigyna, 58887.
 vulgaris, 58888.
Boronia megastigma, 58673.
Brachypodium distachyum, 58695, 58899.
Brassica sp., 58729.
Buddleia colvilei, 58904.

Callicarpa rubella, 58905.
Campylotropis macrocarpa, 58696.
Capsicum annuum, 58730.
Carica sp., 58660.
 candicans, 58627.
 papaya, 58671.
Castanea mollissima, 58602, 58659, 58719-58724.
Castanopsis sp., 58819.
Catjang, Vigna cylindrica, 58800.
Chaenomeles lagenaria wilsonii, 58605.
Cheiranthus mutabilis, 58648.
Cherry, Prunus spp., 58541, 58832, 58833.
Chestnut, Castanea mollissima, 58602.
Chickpea, Cicer arietinum, 58732, 58733.
Chives, Allium schoenoprasum, 58687.
Chloris sp., 58731.
Cicer arietinum, 58732, 58733.
Citrus grandis, 58457, 58840.
 ichangensis, 58480.
 nobilis deliciosa, 58672.
Clematis tangutica obtusiuscula, 58606.
Clitandra arnoldiana, 58645.
Clover, Trifolium badium, 58712.
 T. squarrosum, 58713.
 red, T. pratense, 58458, 58472, 58475-58477,
 58514-58516, 58631, 58632, 58814, 58855-58862.
Coffea liberica, 58497.
Colocasia esculenta, 58479.
Colvillea racemosa, 58460.
Coriander, Coriandrum sativum, 58734.
Coriandrum sativum, 58734.
Corn, Zea mays, 58801, 58802, 58816.
Corokia virgata, 58607.
Coronilla emeris, 58697.
 montana, 58698.
Corylus sp., 58523.
 ferox, 58488.
Cotoneaster spp., 58524, 58525, 58611, 58820, 58821.
 bullata, 58608.
 frigida, 58609.
 salicifolia rugosa, 58610.
Cotton, Gossypium spp., 58738, 58739.
Crataegus sp., 58526.
Crotalaria sp., 58635.
 anagyroides, 58466.
Cryptostegia grandiflora, 58851.
Cucurbita maxima, 58735.

Daphne sp., 58527.
Dinebra arabica, 58699.
Dioscorea sp., 58662.
 cayenensis, 58625.
 rotundata, 58626.
Diospyros decandra, 58465.
Duchesnea indica, 58891.

Ecdysanthera utilis, 58496.
Echinocarpus sp. See *Sloanea* sp.
Ehrharta erecta, 58572.
 panicea. See *E. erecta*.
Elaeagnus sp., 58528.
Elder, Sambucus sp., 58544.
Emmer, Triticum dicoccum, 58788, 58789.
Enkianthus deflexus, 58906.
 himalaicus. See *E. deflexus*.
Eomecon chionantha, 58649.
Eragrostis abyssinica, 58736, 58737.
Eremocitrus glauca, 58552.
Eriobotrya sp., 58822.
Erodium sp., 58864.
 trichomanefolium, 58863.
Erythrina arborescens, 58907.
Eucalyptus delegatensis, 58628.
Euonymus spp., 58529, 58823.
Euphorbia fulva, 58900.

- Fenugreek, Trigonella foenum-graecum*, 58781.
Festuca amethystina, 58700.
rigida. See *Scleropoa rigida*.
Ficus carica, 58643, 58663-58668.
mysorensis, 58587.
 Fig, *Ficus carica*, 58643, 58663-58668.
 Fir, *Abies* spp., 58469, 58499, 58642.
forrestii, 58468, 58641.
 Flax, *Linum usitatissimum*, 58761-58764.
Fragaria spp., 58841-58849, 58893.
californica, 58892.
daltoniana, 58489.
indica. See *Duchesnea indica*.
Funtumia elastica, 58590.

Garcinia morella, 58589.
 Garlic, *Allium sativum*, 58686.
Gaultheria sp., 58511.
Glycine hispida. See *Soja max*.
Gossypium spp., 58738, 58739.
 Grass, *Agropyron pungens*, 58866.
Agrostis sp., 58867.
Andropogon sp., 58726.
ceresiaeformis, 58725.
Brachypodium distachyum, 58695, 58889.
pinnatum, 58890.
Chloris sp., 58731.
Dinebra arabica, 58699.
Festuca amethystina, 58700.
Hyparrhenia sp., 58756.
Melica altissima, 58706.
Pennisetum spp., 58765, 58766.
Phalaris bulbosa, 58895.
Poa caesia, 58708.
 ribbon, *Phalaris arundinacea*, 58853.
Scleropoa rigida, 58709.
Sporobolus sp., 58779.
Stipa sp., 58898.
Tricholaena sp., 58780.
Guizotia abyssinica, 58740, 58741.

 Hazel, *Corylus* sp., 58523.
C. ferox, 58488.
 Hemlock, *Tsuga* sp., 58510.
T. yunnanensis, 58838.
Hibiscus sabdariffa, 58570.
Hippocrepis ciliata, 58701.
Holcus sorghum, 58742-58746.
 Honeysuckle, *Lonicera* spp., 58533, 58614, 58615.
Hordeum deficiens, 58747, 58748.
vulgare coeleste, 58530, 58749.
pallidum, 58750-58755.
Hydnocarpus anthelmintica, 58592.
Hyoscyamus muticus, 58601.
Hyparrhenia sp., 58756.

 Ilaia, *Annona diversifolia*, 58850.
Indigofera australis, 58586.
Iris sp., 58531.

Juglans insularis, 58810.
regia, 58455, 58597, 58629, 58630, 58669.
 Juniper, *Juniperus* spp., 58532, 58824, 58825.
Juniperus spp., 58532, 58824, 58825.

Kalopanax divaricatum, 58612.
Keteleeria sp., 58500.
Kokia drynarioides, 58574.
 Kumquat, Australian desert, *Eremocitrus glauca*, 58552.

Landolphia droogmansiana, 58591.
kirkii delagoensis, 58899.
owariensis, 58517.
Lathyrus niger, 58894.
sativus, 58757.
Lazatera olbia, 58650.
 Leek, *Allium porrum*, 58685.
 Lentil, *Lentilla lens*, 58758-58760.
Lentilla lens, 58758-58760.
Lens esculenta. See *Lentilla lens*.
Leschenaultia biloba, 58674.
Lespedeza macrocarpa. See *Campylotropis macrocarpa*.
Ligustrum delavayanum, 58613.

Lilium sp., 58595.
dauricum, 58553.
roseum. See *L. thomsonianum*.
thomsonianum, 58490.
 Lily. See *Lilium* spp.
Lindera sp. See *Benzoin* sp.
Linum usitatissimum, 58761-58764.
Lonicera spp., 58533, 58614, 58615.
Lotus edulis, 58702.
ornithopodioides, 58703.
requieni, 58852.
siliquosus, 58704.

Magnolia spp., 58826, 58827.
Malus spp., 58534-58536.
sikkimensis, 58491.
syvestris, 58464.
yunnanensis, 58828.
Mangifera indica, 58456.
 Mango, *Mangifera indica*, 58456.
 Maple, *Acer* spp., 58518, 58817, 58901-58903.
Markhamia sp., 58593.
Meconopsis spp., 58537, 58596.
Medicago tornata, 58705.
Melica altissima, 58706.
Michelia cathcartii, 58908.
excelsa, 58909.
lanuginosa, 58910.
Momordica cochinchinensis, 58554, 58583.
Musa spp., 58568, 58584.

Nomocharis pardanthina, 58829.
Nyssa sessiliflora, 58911.

 Oats, *Avena abyssinica*, 58727.
A. strigosa, 58728.
Olea europaea, 58661.
 Olive, Barouni, *Olea europaea*, 58661.
 Onion, *Allium cepa*, 58677, 58678.
 Welsh, *A. fistulosum*, 58679, 58870.
 Orange, mandarin, *Citrus nobilis deliciosa*, 58672.
Ornithogalum spp., 58549-58551.
Osmanthus sp., 58830.

Pachira insignis, 58582.
Panax pseudoginseng, 58492.
 Papaya, *Carica papaya*, 58671.
Paspalum notatum, 58644.
 Pea, *Pisum sativum*, 58771-58777.
 Peach-almond hybrid, *Amygdalus communis* × *persica*, 58474.
 Pear, *Pyrus* spp., 58504, 58512, 58542, 58834, 58835.
Pennisetum spp., 58765, 58766.
 Pepper, red, *Capsicum annuum*, 58730.
Phalaris arundinacea, 58853.
bulbosa, 58895.
Phaseolus vulgaris, 58767-58770.
Phleum pratense, 58571.
Photinia sp., 58831.
Picea spp., 58470, 58498, 58502.
likiangensis, 58501.
morinda. See *P. smithiana*.
morindoides, 58912.
smithiana, 58913.
 Pine, *Pinus armandi*, 58538.
Pinus armandi, 58538.
Piptanthus nepalensis, 58865.
Pisum elatius, 58707.
sativum, 58771-58777.
 Plum, *Prunus* sp., 58540.
Poa caesia, 58708.
 Poplar. See *Populus* spp.
Populus generosa, 58646.
maximowiczii, 58483.
suaveolens przewalskii, 58484.
 Potato, *Solanum tuberosum*, 58815.
 Primrose, *Primula* sp., 58503.
Primula sp., 58503.
Prinsepia sp., 58539.
 Privet, *Ligustrum delavayanum*, 58613.
Prunus spp., 58540, 58541, 58832, 58833.
armeniaca, 58809.
rufa, 58493.
Pyrus spp., 58504, 58512, 58542, 58834, 58835.
sikkimensis. See *Malus sikkimensis*.
yunnanensis. See *Malus yunnanensis*.

- Raspberry, *Rubus idaeus*, 58806.
Rhododendron spp., 58506, 58507, 58509, 58633, 58634.
anthopogon, 58914.
araliaeforme, 58598, 58599.
barbatum, 58915.
camelliaeiflorum, 58916.
campanulatum, 58917.
campylocarpum, 58918.
ciliatum, 58919.
cinnabarinum. See *R. roylei*.
dalhousiae, 58920.
falconeri, 58921.
fulgens, 58922.
grande, 58923.
hodgsonii, 58924.
lanatum, 58925.
lepidotum, 58926.
maddenii, 58927.
oleifolium, 58505.
roylei, 58928.
sino-grande, 58508.
thomsonii, 58929.
wightii, 58930.
Rhus coriaria, 58462.
Ribes sp., 58811.
alpestre, 58636.
glaciale, 58637.
griffithii, 58494.
orientale, 58638, 58639.
petraeum, 58804.
warszewiczii, 58805.
Rosa sp., 58543.
brunonii, 58616.
dauidi, 58617.
prattii, 58618.
Rose. See *Rosa* spp.
Roselle, *Hibiscus sabbdariffa*, 58570.
Rubber, Palay, *Cryptostegia grandiflora*, 58851.
Rubber tree, Lagos, *Funtumia elastica*, 58590.
Rubus calycinus, 58495.
flagelliflorus, 58651.
idaeus, 58806.
lasiosstylus, 58896.
saxatilis, 58640.
trifidus, 58652.
Rumex abyssinicus, 58482.
Salix spp., 58486, 58487.
rorida, 58485.
Salvia dichroa, 58653.
Sambucus sp., 58544.
Schizandra rubriflora, 58619.
Scleropoa rigida, 58709.
Scorpion-senna, *Coronilla emerus*, 58697.
Scorpiurus subvillosa, 58710.
sulcata, 58711.
Sesame, *Sesamum orientale*, 58778.
Sesamum orientale, 58778.
Sideroxylon australe, 58478.
Sisyrinchium striatum, 58654.
Sloanea sp., 58836.
Soja max, 58897.
Solanum demissum × *tuberosum*, 58471.
tuberosum, 58815.
Sorbaria sp., 58545.
Sorbus spp., 58546, 58547, 58837.
Sorghum, *Holcus sorghum*, 58742-58746.
Sorghum vulgare. See *Holcus sorghum*.
Soybean, *Soja max*, 58897.
Spathodea nilotica, 58467.
Sphaeralcea munroana, 58655.
Sporobolus sp., 58779.
Spruce, *Picea* spp., 58470, 58498, 58502.
P. likiangensis, 58501.
morindoides, 58912.
smithiana, 58913.
Squash, *Cucurbita maxima*, 58735.
Stipa sp., 58898.
Stranvaesia davidiana, 58620.
davidiana undulata, 58621.
Strawberry, *Fragaria* spp., 58841-58849, 58893.
F. californica, 58892.
Himalayan, *F. daltoniana*, 58489.
Taro, *Colocasia esculenta*, 58479.
Teff, *Eragrostis abyssinica*, 58736, 58737.
Telopea speciosissima, 58513.
Tetrastigma harmandi, 58569.
Thladiantha oliveri, 58656.
Tigridia pavonia, 58573.
Timothy, *Phleum pratense*, 58571.
Tithonia diversifolia, 58588.
Torreya fargesii. See *Tumion fargesii*.
Tricholaena sp., 58780.
Trifolium badium, 58712.
fragiferum, 58854.
pratense, 58458, 58472, 58475-58477, 58514-58516, 58631, 58632, 58814, 58855-58862.
squarrosus, 58713.
Trigonella corniculata, 58714.
cretica, 58715.
foenum-graecum, 58781.
monspeliaca, 58716.
polycerata, 58717.
Triticum aestivum, 58555-58567, 58575-58581, 58782-58787.
dicoccum, 58788, 58789.
durum, 58790, 58791, 58793-58796.
polonicum, 58792.
turgidum, 58548.
vulgare. See *T. aestivum*.
Tsuga sp., 58510.
yunnanensis, 58838.
Tumion fargesii, 58600.
Undetermined, 58797, 58839.
Vaccinium urceolatum, 58657.
Vallis heynei, 58594.
Verbascum weidemannianum, 58658.
Vetch, *Vicia dasycarpa*, 58718.
bitter, *Lathyrus sativus*, 58757.
Viburnum buddleifolium, 58812.
burejaeticum, 58807.
dasyanthum, 58622.
hanceanum, 58473.
phlebotrichum, 58623.
rhytidophyllum, 58808, 58813.
Vicia dasycarpa, 58718.
jaba, 58798, 58799.
Vigna cylindrica, 58800.
Vitis megalophylla. See *Ampelopsis megalophylla*.
Walnut, *Juglans regia*, 58455, 58669.
Cuban, *J. insularis*, 58810.
Waratah, *Telopea speciosissima*, 58513.
Wheat, common, *Triticum aestivum*, 58555-58567, 58575-58581, 58782-58787.
durum, *T. durum*, 58790, 58791, 58793-58796.
Polish, *T. polonicum*, 58792.
poulard, *T. turgidum*, 58548.
Willow, *Salix* spp., 58486, 58487.
S. rorida, 58485.
Yam, Yellow Guinea, *Dioscorea cayenensis*, 58625.
White Guinea, *D. rotundata*, 58626.
Yampi, *Dioscorea* sp., 58662.
Zea mays, 58801, 58802, 58816.

ADDITIONAL COPIES
 OF THIS PUBLICATION MAY BE PROCURED FROM
 THE SUPERINTENDENT OF DOCUMENTS
 GOVERNMENT PRINTING OFFICE
 WASHINGTON, D. C.

AT
 5 CENTS PER COPY
 △





UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 79



Washington, D. C.



Issued March, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1924 (S. P. I. NOS. 58931 TO 60956)

CONTENTS

	Page
Introductory statement.....	1
Inventory.....	3
Index of common and scientific names.....	74

INTRODUCTORY STATEMENT

During the period covered by this, the seventy-ninth, Inventory of Seeds and Plants Imported, the actual number of introductions was much greater than for any similar period in the past. This was due largely to the fact that there were four agricultural exploring expeditions in the field in the latter part of 1923 and early in 1924, and the combined efforts of these in obtaining plant material were unusually successful.

Working as a collaborator of this office, under the direction of the National Geographic Society of Washington, D. C., Joseph L. Rock continued to carry on botanical explorations in the Province of Yunnan, southwestern China, from which region he has sent so much of interest during the preceding few years. The collections made by Mr. Rock, which arrived in Washington in the spring of 1924, were generally similar to those made previously in the same region, except that a remarkable series of rhododendrons, numbering nearly 500 different species, many as yet unidentified, was included. Many of these rhododendrons, as well as the primroses, delphiniums, gentians, and barberries obtained by Mr. Rock, promise to be valuable ornamentals for parts of the United States with climatic conditions generally similar to those of Yunnan.

While continuing his search for promising types of barley for the use of plant breeders in the United States, H. V. Harlan, of the Office of Cereal Crops and Diseases, journeyed through Abyssinia and Egypt. As a result of his visit to these countries a number of barley strains were collected (*Hordeum* spp., Nos. 60525 to 60551, 60675 to 60701), an interesting series of sorghums (*Holcus sorghum*, Nos. 60492 to 60524), and also local strains of oats, wheat, cotton, flax, peas, beans, and a number of forage grasses.

H. L. Shantz, of the Office of Plant Geography and Physiology, traveled through East Africa in 1924 for the African Educational Commission, under the auspices of the Phelps-Stokes Fund. In French Somaliland, Uganda, and Kenya, Doctor Shantz collected seeds of a large number of miscellaneous plants of economic interest, such as native grasses, cereals, cotton, and leguminous forage plants.

Fred D. Richey, of the Office of Cereal Crops and Diseases, and Prof. R. A. Emerson, of Cornell University, spent over three months in southern and western South America searching for varieties of corn likely to succeed in regions of low

summer temperature. A large series of promising types was obtained from the cool highlands of Argentina, Chile, Bolivia, and Peru (*Zea mays*, Nos. 59934 to 60167).

As in the past, many valuable introductions have been made through the courtesy of the numerous foreign correspondents of the office. Dr. N. I. Vavilov, director of the Bureau of Applied Botany and Plant Breeding, Leningrad, Russia, has sent in a large collection of seeds (Nos. 60744 to 60956) of native grasses and other forage plants and local strains of cereals, vegetables, and fiber plants. Since these come from regions where extreme conditions of cold and drought prevail, the collection should be of special value for the Great Plains area of the United States.

The shipment of seeds (Nos. 60335 to 60352) presented by Professor Murashinsky, of the Siberian Agricultural Academy, Omsk, Siberia, also promises to be of special interest for trial in the Great Plains area.

The 150 soy-bean samples from China and Japan will be of special interest to soy-bean specialists and others interested in this crop. When it is considered that the soy bean is a comparatively new crop in the United States, that new and better varieties have been displacing older varieties in rapid succession, and that this is due directly to new introductions or indirectly to selections from former introductions, the possibilities of the present collection are readily realized. Of the 34 leading commercial varieties of the United States, 27 are either direct introductions or selections from introductions. In 35 out of 38 States growing soy beans, introduced varieties lead all others in acreage and production.

Included in this inventory are several introductions of *Meibomia*, *Sesban*, and *Crotalaria*; these will be particularly interesting for testing in the Southern States for soil improvement and forage purposes. The recent favorable results in Florida with *Crotalaria striata* and the general satisfactory adaptation of species of *Meibomia* to the Southern States make these genera worthy of further attention.

New grasses of special interest are *Axonopus scoparius* (No. 58966), collected at Guayaquil, Ecuador, which is cultivated not only in that region but also in other parts of the high Andes; *Danthonia semiannularis* (No. 59361), the wallaby grass of Tasmania, where it provides good pasturage; and *Brachypodium mexicanum* (No. 59295), an annual Mexican grass with succulent leaves, which may prove of value in the southern United States.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,

Washington, D. C., June 9, 1926.

INVENTORY¹

58931 and 58932. *CASTANOPSIS* spp. Fagaceæ.

From Buitenzorg, Java. Seeds presented by the Director of the Botanic Gardens. Received April 25, 1924.

58931. *CASTANOPSIS ARGENTEA* (Blume) A. DC.

This East Indian relative of the chestnut is an evergreen tree 50 to 60 feet in height, with narrow papery leaves and very dense clusters of spiny burs; each bur contains normally a single edible nut about an inch in diameter.

For previous introduction, see S. P. I. No. 57732.

58932. *CASTANOPSIS TUNGURRUT* (Blume) A. DC.

In Java, where this species is native, it is called "tungurrut" by the natives, who eat the small greenish nuts. The tree is very tall, becoming over a hundred feet in height, and the leathery greenish gray leaves are 5 to 8 inches in length. The burs, an inch and a half in diameter, are densely covered with tufts of curved spines and inclose one to three nuts.

58933. *SOLANUM TUBEROSUM* L. Solanaceæ. Potato.

From Bogota, Colombia. Tubers presented by Hermano Apolinar Maria, Instituto de la Salle. Received June 6, 1924.

The yellow-fleshed potato is one of the most interesting varieties found in the Andean region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as those of some other varieties, but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor, suggesting that of the chestnut. It seems to me the variety might be improved so as to do away with the objectionable eyes and that it would then be worthy of extensive cultivation. (*Wilson Popenoe, Bureau of Plant Industry.*)

For previous introduction, see S. P. I. No. 56803.

58934 to 58944. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Nanking, China. Seeds presented by T. S. Kuo, associate dean, College of Agriculture, National Southeastern University. Received June 9, 1924.

Introduced for soy-bean specialists.

58934. *I-ow* (green coat).

58934 to 58944—Continued.

58935. *I-ow* (white coat).

58936. *Nanking* (black).

58937. *Nanking* (green).

58938. *Nanking* (green coat).

58939. *Nanking* (large green).

58940. *Nanking* (small yellow).

58941. *Nanking* (tiger coat).

58942. A small bean used especially for sprouting and for curd.

58943. *Nanking Tea* (yellow).

58944. *Ver-nen* (green coat).

58945 to 58953. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Sapporo, Japan. Seeds presented by T. Abiko, agronomist, Hokkaido Agricultural Experiment Station. Received June 12, 1924.

Introduced for soy-bean specialists.

58945. *Chusei-Kuro-Daidzu*.

58946. *Gin-Daidzu*.

58947. *Kan-ro*.

58948. *Kuro-Saya*.

58949. *Kuro-Shoryu*.

58950. *Midzu-Kuguri*.

58951. *Nagaha-Saidzu*.

58952. *Ran-Koshi*.

58953. *Ishikari-Shiro*.

58954 to 58956. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Weihsien, Shantung, China. Seeds presented by Arthur L. Carson, Point Breeze Academy. Received June 11, 1924. Notes by Mr. Carson.

Introduced for soy-bean specialists.

58954. *Black beans*. A tall variety, used largely for animal feed.

58955. *Common yellow variety*; one of the most popular in Weihsien.

58956. *Green swamp beans*. A very tall variety adapted to swampy places.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

58957. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ.**Soy bean.**

From Sapporo, Japan. Seeds presented by T. Abiko, agronomist, Hokkaido Agricultural Experiment Station. Received June 12, 1924.

Introduced for soy-bean specialists.

Hadaka-Daidzu.

58958. GARCINIA BINUCAO (Blanco) Choisy. Clusiaceæ. Binukao.

From Manila, Philippine Islands. Seeds presented by the Director of the Bureau of Agriculture. Received June 2, 1924.

The binukao, a relative of the mangosteen, is a handsome tree which is very common in certain parts of the Philippine Islands, notably in Luzon and the Visayan Islands. W. H. Brown, in "Wild Food Plants of the Philippines," states that the yellowish, rounded fruits, nearly 2 inches in diameter, with a very acid pulp and numerous seeds, are eaten with fish by the Filipinos. The small, red flowers are borne in dense clusters. The binukao will probably not endure low temperatures, since it comes from a tropical region.

58959 and 58960. HIBISCUS SABDA-RIFFA L. Malvaceæ.

From Kuala Lumpur, Federated Malay States. Seeds presented by the agriculturist, Department of Agriculture. Received June 9, 1924.

Variety *altissima*. A tall variety, first recognized in the Philippine Islands where it was grown from seed received from Senegal, West Africa. It is an annual plant with slender stalks 2 to 3 meters high. It differs from the more common roselle in being taller and in having calyx lobes less fleshy and is of little value for making jellies, jams, etc.

Tall roselle is cultivated to a limited extent in Senegal for fiber production, and during the past two or three years a syndicate has been trying to establish its cultivation in the Federated Malay States.

The fiber belongs to the jute group and is suitable for bags, burlaps, and twines. It is coarser and harsher than Indian jute. No efficient machinery has been devised for preparing bast fibers such as jute and roselle, and it would be impossible to produce these fibers profitably by hand labor in this country.

Tall roselle may be grown in the warmer parts of the Gulf States and in southern California. (L. H. Dewey, Bureau of Plant Industry.)

58959. Green form.

58960. Red form.

58961. CASTANOPSIS ARGENTEA (Blume) A. DC. Fagaceæ.

From Buitenzorg, Java. Seeds presented by Dr. J. J. Smith, 's Lands Plantentuin. Received June 12, 1924.

In the endeavor to establish in the United States blight-resistant chestnuts or related trees, Asiatic species of *Castanea* and *Castanopsis* are being introduced for trial. This species, from Java, is a large evergreen tree 50 to 60 feet tall, with dense clusters of spiny burs which inclose edible nuts about an inch in diameter.

For previous introduction, see S. P. I. No. 58931.

58962. MEIBOMIA OLDHAMI (Oliver) Kuntze (*Desmodium oldhami* Oliver). Fabaceæ.

From Leningrad, Russia. Seeds presented by Wl. Kousnetzoff, in charge of forage plants, Bureau of Applied Botany. Received June 12, 1924.

A slender, unbranched Japanese species, 2 to 4 feet high, with leaves 5 to 10 inches long.

58963. FUNTUMIA ELASTICA (Preuss) Stapf. Apocynaceæ.**Lagos rubber tree.**

From Akkra, Gold Coast Colony, Africa. Seeds presented by W. S. D. Tudhope, Director, Agricultural Department. Received April 2, 1924.

A large forest tree which is very widely distributed throughout central Africa and is the source of Lagos rubber, the quality of which is but little inferior to that of Para rubber.

Though of doubtful value for growing commercially even in the most favorable parts of the United States, this plant is being introduced with a view of including it in the collection of rubber plants now being brought together in southern Florida for investigational purposes.

For previous introduction, see S. P. I. No. 42367.

58964. LILIUM PHILIPPINENSE Baker. Liliaceæ. Benguet lily.

From Taihoku, Formosa, Japan. Bulbs presented by R. Kanehira, director, Experimental Station of Forestry. Received April 2, 1924.

A semihardy Philippine lily with a slender green stem, sometimes purple dotted, 1 to 2 feet high, 30 to 40 narrow horizontal, recurved leaves 3 to 5 inches long, and delicately fragrant, pure waxy white flowers, 8 inches long, tinged green near the base, with yellow anthers. This species is best suited for pot culture in cold regions.

For previous introduction, see S. P. I. No. 50311.

58965. NICOTIANA SUAVEOLENS Lehm. Solanaceæ.

From Sydney, New South Wales. Seeds presented by J. H. Maiden, director, Botanic Gardens. Received April 2, 1924.

This Australian relative of the common tobacco-producing species is a herbaceous annual or biennial, native to sandy, hilly regions throughout most of Australia. It is said that in former times the leaves were chewed by the natives. The plant is readily eaten by stock. It is now introduced for the use of specialists who are studying the narcotic properties of the Solanaceæ.

58966. AXONOPUS SCOPARIUS (Fluegge) Hitchc. (*Paspalum scoparium* Fluegge). Poaceæ.

From Guayaquil, Ecuador. Seeds collected by A. S. Hitchcock, Bureau of Plant Industry. Received April 2, 1924.

This South American grass is used at low altitudes for forage, being cut green and fed as is done with guinea grass. I saw it first on the estate of J. A. Cleveland, of Guayaquil, in the rain belt at the foot of the mountains near Bucay. The grass is set out from plants obtained by division of the roots. It is called there "gramalote." I suspect this name is the same as gamalote, which is used for a different species in some other countries. The grass appears to be looked upon with favor, as it is large and succulent and produces abundant forage. It is preferred to guinea grass, which grows under about the same conditions. I found the same grass again in the Perene Valley of central Peru at an altitude of about 2,000 feet. There it is called maicillo and is used in competition with guinea grass. It appeared again in the Yungas region of Bolivia. It is there called cachi. In the intermediate altitude from 5,000 to 8,000 feet it was the only forage obtained for our mules while traveling. Throughout the region the grass is native and has been transferred to cultivation. (Hitchcock.)

58967 and 58968. RUBUS spp. Rosa-ceæ.

From Chester, England. Plants purchased from Dicksons' Nurseries. Received April 2, 1924.

Introduced for horticulturists experimenting with small fruits.

58967. RUBUS BIFLORUS Buch.-Ham.

A rambling shrub, with large leaves, woolly beneath and subacid yellow berries about the size of a thimble.

58968. RUBUS FRUTICOSUS L. Blackberry.

Var. *rubra plena*. A blackberry with double red flowers.

58969 and 58970.

From Cairo, Egypt. Seeds purchased from the director, Egyptian Seed Co. Received April 3, 1924.

Introduced for forage-crop specialists.

58969. MEDICAGO SATIVA L. Fabaceæ.

Hegazi. A local strain grown in Egypt.

58970. TRIFOLIUM ALEXANDRINUM L. Fabaceæ.

Miskawi. One of the principal types of berseem grown in Egypt.

58971 and 58972. DIOSPYROS KAKI L. f. Diospyraceæ. Kaki.

From Weihhsien, Shantung, China. Scions presented by Ralph C. Wells, Point Breeze Academy. Received April 4, 1924. Notes by Mr. Wells.

These two varieties are from Tsingchowfu and were sent in by A. L. Carson, of Weihhsien, Shantung.

58971. *Tishihtzu* (iron persimmon). A relatively nonastringent variety.

58972. *Toashihtzu* (palm-of-the-hand persimmon).

58973. DIOSCOREA sp. Dioscoraceæ. Yam.

From Barbados, British West Indies. Tubers presented by John R. Bovell, Director of Agriculture. Received April 23, 1924.

Antigua white. This variety, which I believe is a sport, I consider one of the best of the white yams. Its history is as follows: A planter in the island of Antigua bought a yam for cooking purposes and, as it was rather large, only a portion of it was used for cooking. It proved to be of such good flavor that the remainder was planted and subsequently propagated for distribution. These tubers which I am sending are of this variety. (Bovell.)

58974. LUCUMA MULTIFLORA DC. Sapotaceæ.

From San Jose, Costa Rica. Seeds presented by Carlos Werckle. Received April 3, 1924.

This West Indian tree is a close relative of the lucuma (*Lucuma obovata*) whose bright-yellow, mealy-fleshed fruits are popular in the Andean regions of South America. The leaves of the West Indian species are leathery and oblong and the edible fruit is nearly an inch in diameter. It may prove to be adapted to the southern part of Florida.

58975 and 58976.

From Tripoli, Libia, North Africa. Bud wood presented by Dr. E. O. Fenzi. Received April 1, 1924. Notes by Doctor Fenzi.

58975. MALUS sp. Malaceæ. Apple.

Garra, an extra early native variety. This is of good size and very juicy, and it ripens at the same time as the earliest apricots.

58975 and 58976—Continued.**58976. PRUNUS ARMENIACA L. Amygdalaceæ. Apricot.**

Ain thor (bull's eye); also *bergsam*. A very large tree, taller and more vigorous than any other kind; leaves thin, irregularly toothed; fruit globular, with hardly any groove, weight about 40 grams, diameter 40 mm.; skin scarcely tomentose, reddish yellow, adhering closely to the flesh; flesh more juicy than that of any other kind, with flavor more like that of a plum than an apricot, adhering closely to the smooth stone. Not common.

58977. DAVIDIA INVOLUCRATA Baill. Cornaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1924.

Nos. 11234 (fruit), 9067 (flowers). October, 1923. A handsome tree 30 to 40 feet high which grows on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 10,000 feet. The flowers are between two very large, cream-colored bracts the size of one's hand. The fruits are deep-blue drupes. (Rock.)

58978 and 58979. SESBAN spp. Faba-ceæ.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received April 5, 1924.

58978. SESBAN ACULEATUM (Schreb.) Poir.

A tall-growing, annual, leguminous plant from tropical and subtropical Asia, which is used there as green manure and also for fodder. It is a vigorous grower and is said to thrive in semiarid regions. Introduced for forage-crop specialists.

58979. SESBAN AEGYPTIACUM Poir.

In Porto Rico and also in western Java the leaves and young branches of this yellow-flowered shrub are used for fodder, and it is now introduced for the use of forage-crop specialists.

For previous introduction, see S. P. I. No. 54894.

58980 to 58985. RUBUS spp. Rosa-ceæ. Raspberry.

From Orleans, France. Plants purchased from E. Turbat & Co. Received April 2, 1924. Quotations from catalogue of Millet & Fils.

Introduced for testing by horticulturists engaged in raspberry breeding.

58980. RUBUS sp.

"*All Summer*. An everbearing variety with large red fruits of good quality."

58981. RUBUS sp.

"*Améliorée de Congy*. A vigorous variety with red fruits of excellent quality."

58982. RUBUS sp.

"*Belle de Fontenay*. An everbearing variety, with sweet, red, round fruits of very good quality."

58983. RUBUS sp.

"*Perpétuelle de Ballard*. An everbearing variety which bears a large crop of very fine red fruits."

58984. RUBUS sp.

"*Superlative Perpétuelle*. Fruits red, very large, with an aromatic sweet flavor."

58985. RUBUS sp.

"*Surpasse merveille*. An everbearing variety with medium-sized white fruits."

58986. SPARTINA TOWNSENDI Groves.
Poaceæ. Grass.

From London, England. Seeds presented by Prof. F. W. Oliver, University College, London, through A. S. Hitchcock, Bureau of Plant Industry. Received April 4, 1924.

Professor Oliver regards *Spartina townsendi* as a probable hybrid between *Spartina stricta* and *S. alterniflora*. It appeared at Hythe, Southampton, England, about 1879, and has spread rapidly on the mud flats, reclaiming the land. Professor Oliver says that it is eaten eagerly by cattle and pigs and is also promising as a paper-making material, but the cost of harvesting is large at present. We consider this species to be the same as *S. alterniflora* Loisel., which is found on the shores of Nova Scotia and New Brunswick, south to Maine. (Hitchcock.)

58987. TRIFOLIUM AFRICANUM GLABELLUM Harv. Fabaceæ. Clover.

From Cedara, Natal, Union of South Africa. Seeds presented by W. S. Hall, assistant experimentalist, School of Agriculture. Received April 5, 1924.

An indigenous Natal perennial clover which is a very vigorous grower, forming a thick sward which smothered adjacent plots of other clovers unless cut back. After three years the plot begins to deteriorate. In its native country this variety thrives in moist places. Introduced for agronomists engaged in breeding new types of clover.

58988. CEREUS VALIDUS Haw. Cactaceæ.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received April 7, 1924.

A tall, picturesque plant, which produces fruit the size of a goose egg and of a beautiful magenta color. These fruits are absolutely without spicules and of very good taste. Doctor Proschowsky remarks that he knows of no other fruit which is so "melting," and it resembles much the "snows" sold in Latin-American countries, consisting of real snow mixed with fruit juice or sugar. (David Fairchild, Bureau of Plant Industry.)

58989 and 58990. CITRUS SINENSIS (L.) Osbeck. Rutaceæ. Sweet orange.

From Soledad, Cienfuegos, Cuba. Bud wood presented by R. M. Grey, superintendent, Cuban Gardens. Received April 8, 1924. Notes by Mr. Grey.

58989. Harvard No. 1. This is one of the best seedlings we have ever raised here and has been in cultivation for many years. The tree forms a compact head, with deep rich-green foliage; it is drought resistant, and has borne splendid crops here every year. The fruit is medium to large, starts to ripen early in November, and remains firm and juicy until May. The skin is a rich orange color, of medium thickness; the flesh is of fine texture and quality, sweet in flavor and few seeded.

58990. Harvard No. 2. A late bud sport of Valencia. The tree is of spreading habit and a prolific bearer. The fruit is of good size, few seeded, does not ripen until February, but retains its firmness and juice until late October. The skin is pale yellow, quite thin and smooth; the flesh is of excellent quality and of pleasant, mild, sweet flavor.

58991 to 58996. SACCHARUM OFFICINARUM L. Poaceæ. Sugar cane.

From Coimbatore, Madras Presidency, India. Cuttings presented by T. S. Venkatraman, Government sugar-cane expert, Agricultural College. Received April 3, 1924.

These varieties have been found eminently suited for cultivation in northern India. (Venkatraman.)

58991 to 58996—Continued.

58991. Co. 205.

58994. Co. 214.

58992. Co. 210.

58995. Co. 232.

58993. Co. 213.

58996. Co. 281.

58997 to 58999. RUBUS spp. Rosaceæ. Blackberry.

From Concepcion, Province of Chirique, Panama. Plants presented by J. R. Genuit. Received April 15, 1924.

These are wild species, likely to prove of interest in the warmest portions of the United States.

58997. RUBUS sp.

58999. RUBUS sp.

Black fruits.

Salmon-colored fruits.

58998. RUBUS sp.

Pink fruits.

59000 to 59268.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 4, 1924. Notes by Mr. Rock.

59000. ACONITUM sp. Ranunculaceæ.

No. 11428. November, 1923. A plant 3 feet tall found growing in alpine meadows between 12,000 and 13,000 feet altitude in the Likiang Snow Range. The leaves are finely palmatisect, and the pale purplish, silky blue flowers are in dense spikes.

59001. ACONITUM sp. Ranunculaceæ.

No. 11457. November, 1923. A plant 3 to 4 feet tall from alpine meadows in the fir forest at an altitude of 11,000 feet, Sungkwe Mountains. It has large leaves and long spikes of large, pale-blue flowers.

59002. ANDROSACE SPINULIFERA (Franch.) Knuth. Primulaceæ.

No. 11411. November, 1923. Likiang Snow Range. A plant 1 to 2 feet high found growing in dry rocky limestone regions at about 11,000 feet altitude. The rosette of spatulate leaves and umbels of rich pink flowers make it very attractive.

For previous introduction, see S. P. I. No. 55253.

59003. BERBERIS DICTYOPHYLLA Franch. Berberidaceæ.

No. 11462. Mahoangpatze. November, 1923. A spiny shrub 5 to 6 feet high, found in alpine meadows, Likiang Snow Range. The leaves are glaucous, the flowers yellow, and the fruits red.

For previous introduction, see S. P. I. No. 56293.

59004. BUDDLEIA FORRESTII Diels. Loganiaceæ.

No. 11432. November, 1923. A very attractive shrub found only in limestone soil on the Likiang Snow Range at from 9,000 to 10,000 feet altitude. It has white woolly leaves and spikes of lavender-blue flowers.

For previous introduction, see S. P. I. No. 56294.

59005. CAMPANULA sp. Campanulaceæ.

No. 11405. October, 1923. A plant 2 to 3 feet tall found growing in pine forests at Saba and also in meadows at about 12,000 feet altitude on the Likiang Snow Range. The leaves are lanceolate, and the drooping flowers are deep indigo blue.

59006. CARAGANA sp. Fabaceæ.

Nos. 11330 (fruit), 9243 (flowers). November, 1923. A shrub 1 to 2 feet high which forms spiny cushions on rocky slopes at 15,500 to 16,000 feet altitude on the Yangtze-Mekong Divide. The branches are covered with gray pubescence, and the flowers are a rich pinkish purple.

59000 to 59268—Continued.

59007. *CORYLOPSIS* sp. Hamamelidaceæ.

No. 11226. October, 1923. A very handsome tree 20 feet high found at 10,000 feet altitude on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide. The leaves are fan-shaped with prominent veins which radiate like segments of a fan.

59008. *CORYLUS TIBETICA* Batal. Betulaceæ.
Hazel.

No. 11136. November, 1923. A small tree 30 to 40 feet high found at 10,000 feet altitude in the forests of Sila Pass on the Mekong-Salwin Divide. The thin green leaves are large and ovate serrate; the echinate fruits are in threes, and the nuts are small.

For previous introduction, see S. P. I. No. 46406.

59009. *CREMANTHODIUM* sp. Asteraceæ.

No. 11440. November, 1923. A plant about 1 foot high, found in alpine meadows on the Likiang Snow Range at an altitude of 12,000 feet. The oval leaves are in basal rosettes, and the large flower heads have drooping golden ray florets.

59010. *DELPHINIUM* sp. Ranunculaceæ.

No. 11407. November, 1923. A plant 2 to 3 feet high found in crevices of limestone boulders, Likiang Snow Range, at an altitude of 11,000 feet. The leaves are broadly palmatisect, and the flowers are purplish blue. The plant spreads from the base.

59011. *DELPHINIUM* sp. Ranunculaceæ.

No. 11458. November, 1923. A plant 1 foot high found on alpine slopes of the Likiang Snow Range at 14,000 feet altitude. The leaves form a basal rosette, and the large hairy blue-lavender flowers grow in dense globose spikes.

59012. *GENTIANA* sp. Gentianaceæ.

No. 11399. November, 1923. A handsome moisture-loving herb a foot tall found in alpine meadows at 11,000 feet altitude on the Likiang Snow Range. The very large flowers have long, tubular, salver-shaped corollas of deep indigo blue.

59013. *GENTIANA* sp. Gentianaceæ.

No. 11400. November, 1923. A very attractive species found covering acres of alpine meadows at Harakin in the Likiang Snow Range. The plant is prostrate and only 5 or 6 inches high; the urn-shaped flowers are Prussian blue with white stripes.

59014. *GENTIANA* sp. Gentianaceæ.

Nos. 11400 (fruit), 8907 (flowers). November, 1923. Plants found growing in limestone soil in meadows of Saba, Likiang Snow Range, at 11,000 feet altitude. The leaves are in linear rosettes, and the large flowers are deep indigo blue with paler stripes.

59015. *GENTIANA* sp. Gentianaceæ.

No. 11448. November, 1923. A small plant a foot high found in alpine meadows of the Likiang Snow Range at 12,000 feet altitude. The leaves are linear-lanceolate, and the bluish purple flowers grow in globose heads on long stems.

59016. *GENTIANA* sp. Gentianaceæ.

No. 11450. November, 1923. A prostrate plant 1 to 2 feet long found in alpine meadows of the Likiang Snow Range at 12,000 feet altitude. The flowers are yellow.

59017. *GENTIANA* sp. Gentianaceæ.

No. 11466. November, 1923. A small plant 10 inches high found in alpine meadows of the Likiang Snow Range at 13,000 feet altitude. The small, elliptic leaves clasp the stem; the flowers are blue with a purple tinge.

59000 to 59268—Continued.

59018. *GENTIANA* sp. Gentianaceæ.

No. 11474. November, 1923. A plant 2 inches high with deep-blue flowers found at 13,000 feet altitude in alpine meadows of the Likiang Snow Range.

59019. *GENTIANA* sp. Gentianaceæ.

No. 11477. November, 1923. A small herbaceous plant 8 to 10 inches high found in pine forests and meadows on the Likiang Snow Range at 10,000 feet altitude. The leaves are small and linear and the flowers tubular and blue.

59020. *GENTIANA* sp. Gentianaceæ.

No. 11478. November, 1923. A prostrate plant found in moist meadows of the Likiang Snow Range. The large erect flowers are dark blue striped with yellow, and the fleshy leaves are needle shaped.

59021. *IRIS* sp. Iridaceæ.

Nos. 11486 (fruit), 10209 (flowers). November, 1923. A plant 1 to 2 feet tall found growing in clumps in moist meadows on the Likiang Snow Range at 11,000 feet altitude. The flowers are dark blue.

59022. *PIERIS* sp. Ericaceæ.

No. 11414. November, 1923. A handsome shrub 3 to 4 feet high which forms dense bushes; found growing in pine forest outskirts on the Likiang Snow Range at 10,000 feet altitude. The elliptical leaves are shining dark green, and the bell-shaped white flowers are in erect spikes.

59023. *POTENTILLA* sp. Rosaceæ.

No. 11464. November, 1923. A plant found in alpine meadows of the Likiang Snow Range at 9,000 to 10,000 feet altitude. The leaves are trifoliate, and the yellow flowers are in large racemes.

59024 to 59028. *PRIMULA* spp. Primulaceæ.

Primrose.

59024. *PRIMULA* sp.

Nos. 10895 (fruit), 8904 (flowers). November, 1923. A very handsome species found in moist alpine meadows of Londjre, southeastern Tibet, at 12,000 to 13,000 feet altitude. The large flowers are deep indigo blue.

59025. *PRIMULA CALLIANTHA* Franch.

Nos. 10962 (fruit), 9079 (flowers). November, 1923. Plants collected in the alpine meadows of the Mekong Valley at 12,000 feet altitude. The linear-lanceolate leaves are glabrous, and the large drooping flowers are rich purplish blue with large calyxes striped with white.

59026. *PRIMULA CALLIANTHA* Franch.

Nos. 11137 (fruit), 9967 (flowers). November, 1923. A plant found in the alpine meadows of the Peima Mountains at 14,000 feet altitude. The linear-lanceolate leaves are thin and green; the large flowers are rich purple.

59027. *PRIMULA INGENS* W. W. Smith and Forrest.

Nos. 11327 (fruit), 9291 (flowers). November, 1923. A plant about 2½ feet high found in the alpine meadows of the Peima Mountains at 13,000 feet altitude. The linear leaves are glabrous, and the bluish purple flowers are in globose heads.

59028. *PRIMULA* sp.

No. 11350. November, 1923. A plant 2 feet high found on mossy forest banks along the trail near the summit of Shundsangtu at 13,000 feet altitude. The leaves are lanceolate and the flowers are purple.

59000 to 59268—Continued.

59029. *RHODODENDRON CEPHALANTHUM* Franch.
Ericaceæ.

Nos. 11323 (fruit), 9074 (flowers). November, 1923. A shrub 2 feet high found among rocks in the alpine region of Yetché, on the Mekong River. The leaves are small and elliptical with brownish wool beneath; the tubular flowers are white.

59030 to 59263. *RHODODENDRON* spp. Ericaceæ.

59030. *RHODODENDRON* sp.

No. 10895. November, 1923. A spreading shrub, 3 feet tall, found growing in masses in the moist open places in fir forests on the Tibetan border, northwestern Yunnan, at 13,000 feet altitude. The elliptical-oblong leaves are covered with fawn-colored tomentum beneath, and the flowers are a deep blackish carmine.

59031. *RHODODENDRON* sp.

Nos. 10894 (fruit), 8911 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing on moist alpine slopes on the Londjre Mountains in southeastern Tibet. The elliptical leaves are fawn-colored beneath, and the large rich crimson flowers are on long pubescent pedicels.

59032. *RHODODENDRON* sp.

Nos. 10896 (fruit), 8880 (flowers). November, 1923. A large shrub 7 to 8 feet high found on the slopes of the Londjre Mountains, southeastern Tibet. The leaves are large, oblong, glabrous, and a yellowish brown. The deep rich pink flowers are in umbels.

59033. *RHODODENDRON* sp.

No. 10897. November, 1923. A small shrub from 2 to 3 feet high found on the alpine meadows of the Londjre Mountains, southeastern Tibet, at from 12,000 to 13,000 feet altitude. The small elliptical leaves are white beneath, and the flowers vary from rich crimson to carmine.

59034. *RHODODENDRON* sp.

Nos. 10899 (fruit), 10306 (flowers). November, 1923. A small shrub found growing on the alpine slopes of the Londjre Mountains, southeastern Tibet. The elliptical leaves are gray beneath, and the large purple flowers are yellowish at the base.

59035. *RHODODENDRON* sp.

Nos. 10900 (fruit), 10218 (flowers). November, 1923. A small shrub 1 to 2 feet high found growing on the alpine slopes of the Londjre Mountains, southeastern Tibet. The small elliptical leaves are brown beneath, and the large pink flowers grow in racemes.

59036. *RHODODENDRON* sp.

Nos. 10901 (fruit), 10272 (flowers). November, 1923. A small shrub 1 to 2 feet high found on the alpine slopes of the Londjre Mountains, southeastern Tibet. The small oblong leaves are brown beneath, and the deep reddish black flowers have carmine calyxes.

59037. *RHODODENDRON* sp.

Nos. 10902 (fruit), 8915 (flowers). November, 1923. A small shrub 2 to 3 feet high found on the alpine slopes of the Londjre Mountains, southeastern Tibet, Yunnan. The elliptical leaves are grayish green beneath, and the flowers are a rich yellow.

59038. *RHODODENDRON* sp.

Nos. 10903 (fruit), 10265 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing on the alpine meadows of the Londjre Mountains, southeastern Tibet, Yunnan. The small elliptical leaves are white beneath, and the large flowers are yellowish red.

59000 to 59268—Continued.

59039. *RHODODENDRON* sp.

Nos. 10904 (fruit), 10277 (flowers). November, 1923. A small shrub 1 to 2 feet high found growing in masses on the alpine slopes of the Londjre Mountains in southeastern Tibet and northwestern Yunnan. The small, elliptical, glaucous leaves are gray beneath, and the deep-crimson flowers are on short hairy pedicels.

59040. *RHODODENDRON* sp.

Nos. 10905 (fruit), 8912 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in masses in moist places on the Londjre Mountains at from 12,000 to 13,000 feet altitude. The small, elliptical leaves are deep chocolate color beneath, and the blackish crimson flowers are on short pedicels.

59041. *RHODODENDRON* sp.

Nos. 10906 (fruit), 8914 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in masses in the Londjre Mountains, southeastern Tibet and northwestern Yunnan, at 13,000 feet altitude. The elliptical leaves are white tomentose beneath, and the flowers are a rich yellow.

59042. *RHODODENDRON* sp.

Nos. 10907 (fruit), 10285 (flowers). November, 1923. A low shrub from 1 to 2 feet high found growing in moist places on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at altitudes between 12,000 and 13,000 feet. The small leaves are glabrous, and the flowers are pink.

59043. *RHODODENDRON* sp.

Nos. 10908 (fruit), 8879 (flowers). November, 1923. A tree 8 to 10 feet high found growing in a fir forest on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 12,000 feet altitude. The large leaves are subglabrous beneath and pale brown; the rich pink flowers are in large umbels.

59044. *RHODODENDRON* sp.

Nos. 10909 (fruit), 10268 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in masses on the alpine slopes of the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 13,000 feet altitude. The elliptical-oblong leaves are brownish beneath, and the flowers are deep red.

59045. *RHODODENDRON* sp.

Nos. 10910 (fruit), 8886 (flowers). November, 1923. A shrub 4 feet high found growing in fir forests on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 12,000 feet altitude. The large glabrous green leaves are golden yellow beneath, and the large pink flowers, which grow in large umbels, have a purplish tinge.

59046. *RHODODENDRON* sp.

Nos. 10911 (fruit), 10276 (flowers). November, 1923. A small shrub 1 to 1½ feet high found growing in masses on the Londjre Mountains in southeastern Tibet and northwestern Yunnan at 12,000 feet altitude. The linear-lanceolate leaves are drab colored beneath, and the flowers are very dark crimson.

59047. *RHODODENDRON* sp.

Nos. 10912 (fruit), 8782 (flowers). November, 1923. A shrub 3 to 4 feet high found growing on the middle slopes of the Tsehchung Mountains, Mekong, northwestern Yunnan, at 10,000 feet altitude. The small ovate-elliptical leaves are drab colored beneath, and the branches are slender. The flowers are a beautiful pink.

59000 to 59268—Continued.

59048. RHODODENDRON sp.

Nos. 10913 (fruit), 8827 (flowers). November, 1923. A tree 8 to 10 feet high collected in a fir forest on the Tsehchung Mountains at the Mekong watershed, 14,000 feet altitude. The large oblong leaves are drab colored beneath, and the very large pink flowers grow in dense umbels.

59049. RHODODENDRON sp.

Nos. 10914 (fruit), 10081 (flowers). November, 1923. A small shrub 1 to 2 feet high found growing on rocky alpine slopes of the Tsehchung Mountains at 14,000 feet altitude. The very small oval leaves are one-half inch long, and the rich golden-yellow flowers are in dense clusters.

59050. RHODODENDRON sp.

Nos. 10915 (fruit), 8778 (flowers). November, 1923. A shrub 5 feet high found growing on the middle slopes of the Tsehchung Mountains, Mekong Valley, at 10,000 feet altitude. The leaves are small, elliptical, and glabrous, and the medium-sized flowers are pale pink.

59051. RHODODENDRON sp.

Nos. 10916 (fruit), 9125 (flowers). November, 1923. A shrub 3 to 4 feet high found growing in rocky alpine regions of the Tsehchung Mountains at 11,000 feet altitude. The oblong leaves are deep brown beneath, and the rich pink flowers are mottled with purple.

59052. RHODODENDRON sp.

Nos. 10917 (fruit), 8831 (flowers). November, 1923. A small shrub 2 to 3 feet high found growing in the alpine meadows of Tsehchung at 12,000 feet altitude. The oblong leaves are small, and the small yellow flowers grow on long pedicels.

59053. RHODODENDRON sp.

Nos. 10919 (fruit), 9083 (flowers). November, 1923. A low shrub 2 feet high found on the slopes of the Tsehchung Mountains at 10,000 feet altitude. The small elliptical leaves are glaucous greenish beneath, and the little yellow flowers are on long pedicels. This plant is very rare.

59054. RHODODENDRON sp.

Nos. 10925 (fruit), 10093 (flowers). November, 1923. A shrub 5 feet high found in the alpine regions of Tsehchung at 11,000 to 12,000 feet altitude. The leaves are large, obovate, glabrous, and green on both sides, and the rich golden-yellow flowers are in large umbels.

59055. RHODODENDRON sp.

Nos. 10926 (fruit), 9131 (flowers). November, 1923. A low-growing shrub 1 to 2 feet high found in alpine regions of Tsehchung at 12,000 feet altitude. The elliptic leaves are drab to white beneath, and the medium-sized flowers are a deep purple-carmine.

59056. RHODODENDRON sp.

Nos. 10927 (fruit), 8924 (flowers). November, 1923. A shrub 2 feet high found in alpine regions of Tsehchung at 12,000 feet altitude. The elliptical leaves are white beneath with yellow veins, and the large flowers are a rich crimson.

59057. RHODODENDRON sp.

Nos. 10959 (fruit), 8769 (flowers). A shrub 3 to 4 feet high found in the alpine regions of Tsehchung at 14,000 feet altitude. The linear-

59000 to 59268—Continued.

lanceolate leaves are covered beneath with a brown, deciduous wool, and the flowers are a rich crimson with a purple tinge.

59058. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10960 (fruit), 9106 (flowers). November, 1923. A large shrub 6 feet high found in a spruce forest on the slopes of the Tsehchung Mountains at 10,000 feet altitude. The large, leathery leaves are oblong, acuminate, and nearly brown beneath, while the big flowers are cream colored.

59059. RHODODENDRON sp.

Nos. 10961 (fruit), 9152 (flowers). November, 1923. A shrub 4 to 5 feet high found growing in rocky alpine regions of the Tsehchung Mountains. Its leaves are ovate acute and glabrous, and the pure pale-pink flowers grow in open umbels on slender pedicels.

59060. RHODODENDRON sp.

Nos. 10963 (fruit), 8834 (flowers). November, 1923. A shrub 3 to 4 feet high found in alpine meadows of the Tsehchung Mountains at 12,000 feet altitude. The oval leaves are glabrous and the flowers a deep reddish purple.

59061. RHODODENDRON REPENS Balf. f. and Forrest.

Nos. 10964 (fruit), 9133 (flowers). November, 1923. A prostrate plant only a few inches tall which forms mats in the alpine regions of the Tsehchung Mountains at 13,000 feet altitude. It has small elliptical leaves and rich carmine flowers.

59062. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10977 (fruit), 9144 (flowers). October, 1923. A shrub 5 feet high found on the slopes of the Tsehchung Mountains at 10,000 feet altitude. The oblong-acuminate leaves are covered with a brown tomentum beneath, and the flowers are pink spotted with purple.

59063. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10978 (fruit), 9117 (flowers). October, 1923. A shrub 7 to 8 feet high found on the slopes of the Tsehchung Mountains overlooking the Mekong Valley at 10,000 feet altitude. The oblong leaves are brownish tomentose beneath, and the flowers are pink.

59064. RHODODENDRON sp.

No. 10979. October, 1923. A shrub 5 feet high found in the alpine regions of the Tsehchung Mountains at 11,000 feet altitude. The linear-oblong leaves are rufous beneath, and the flowers are pink.

59065. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10980 (fruit), 9136 (flowers). October, 1923. A shrub only 4 feet high found in the alpine region of Tsehchung, Mekong Valley. The small leaves are ovate elliptical and covered with brown tomentum beneath; the flowers are white.

59066. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10981 (fruit), 9115 (flowers). October, 1923. A shrub 8 feet high found on the slopes of the Tsehchung Mountains, Mekong Valley, at 10,000 feet altitude. The oblong leaves are a rich green and covered with yellow tomentum beneath; the white flowers are spotted with purple.

59000 to 59268—Continued.

59067. *RHODODENDRON IXEUTICUM* Balf. f. and Smith.

Nos. 10982 (fruit), 9135 (flowers). October, 1923. A shrub 6 feet high found on the slopes of the Tsehchung Mountains, Mekong Valley, at 10,000 feet altitude. The leaves are linear-lanceolate and covered with yellow tomentum beneath; the large flowers are white.

59068. *RHODODENDRON IXEUTICUM* Balf. f. and Smith.

No. 10983. October, 1923. A shrub 5 feet high found in spruce forests on the slopes of the Tsehchung Mountains, Mekong Valley, at 10,000 feet altitude. The oblong-acuminate leaves are rufous brown beneath, and the large white flowers are borne in large umbels.

59069. *RHODODENDRON* sp.

No. 10984. October, 1923. A shrub 3 feet high found on the alpine slopes of the Tsehchung Mountains at 12,000 feet altitude. The obovate leaves are densely matted beneath with chocolate-colored tomentum; the flowers are deep blackish crimson.

59070. *RHODODENDRON* sp.

Nos. 10985 (fruit), 9140 (flowers). October, 1923. A shrub 3 feet high found in the alpine regions of the Tsehchung Mountains at 12,000 feet altitude. The large obovate leaves are dull green above and chocolate colored beneath; the flowers are deep crimson.

59071. *RHODODENDRON* sp.

Nos. 10986 (fruit), 8789 (flowers). October, 1923. A small shrub 3 to 4 feet high found in the alpine regions of the Tsehchung Mountains at 14,000 feet altitude. The oval leaves are glabrous and the flowers a rich lavender.

59072. *RHODODENDRON* sp.

Nos. 10987 (fruit), 8785 (flowers). October, 1923. A large shrub 5 feet high found in fir forests in the alpine regions of the Tsehchung Mountains at 13,000 feet altitude. The leaves are large, oblong, acute, and glabrous, but brown beneath; the flowers are a rich reddish purple.

59073. *RHODODENDRON* sp.

Nos. 10989 (fruit), 9102 (flowers). October, 1923. A tall shrub 8 feet high found in the forests of Tsehchung at 10,000 feet altitude. The leaves are large, oblong, acute, glabrous, and pale beneath; the white flowers have a slight pinkish tinge.

59074. *RHODODENDRON* sp.

Nos. 10989 (fruit), 9122 (flowers). October, 1923. A low shrub 3 feet high found in the alpine regions of Tsehchung at 12,000 feet altitude. The leaves are obovate-acute at the base and chocolate colored tomentose beneath; the flowers are almost black.

59075. *RHODODENDRON* sp.

Nos. 10990 (fruit), 9127 (flowers). October, 1923. A shrub 5 to 8 feet high which grows on the forested slopes of the alpine regions of Tsehchung at 11,000 feet altitude. The lanceolate leaves are dull green and glabrous; the flowers are purple-pink.

59076. *RHODODENDRON* sp.

No. 10991. October, 1923. A low-growing plant 2 feet high found on the slopes of the Tsehchung Mountains at 10,000 feet altitude. The leaves are small, oval, glabrous, and glaucous, and the flowers are small and yellow.

59077. *RHODODENDRON IXEUTICUM* Balf. f. and Smith.

Nos. 10992 (fruit), 8767 (flowers). October, 1923. A shrub 5 to 6 feet high found in the

59000 to 59268—Continued.

alpine regions of Tsehchung. The oblong, acute leaves are brown woolly beneath, and the white flowers grow in large umbels.

59078. *RHODODENDRON REPENS* Balf. f. and Forrest.

No. 10994. October, 1923. A small plant 1 foot high found growing in the rocky alpine slopes of the Tsehchung Mountains at 13,000 feet altitude. It has small oval leaves and rich crimson flowers.

59079. *RHODODENDRON SEMNUM* Balf. f. and Forrest.

Nos. 10995 (fruit), 10060 (flowers). October, 1923. A tree 15 to 20 feet high found growing on the slopes of the Tsehchung Mountains. The very large leaves, $1\frac{1}{2}$ feet long, are obovate-oblong and silvery gray beneath; the flowers are large and white.

59080. *RHODODENDRON REPENS* Balf. f. and Forrest.

Nos. 10997 (fruit), 9078 (flowers). October, 1923. A prostrate shrub found in the alpine regions of Tsehchung. The small oval leaves are green on both sides, and the large flowers are dark red.

59081. *RHODODENDRON* sp.

Nos. 10999 (fruit), 9139 (flowers). October, 1923. A shrub 4 feet high found on the rocky slopes of the Tsehchung Mountains at 11,000 feet altitude. The linear-elliptical leaves are brown beneath, and the large flowers are a rich crimson.

59082. *RHODODENDRON SALUENENSE* Franch.

No. 11001. October, 1923. A small shrub 2 feet high found on the rocky alpine slopes of the Tsehchung Mountains. The leaves are very small and oval, and the deep purplish blue flowers have carmine calyxes.

59083. *RHODODENDRON* sp.

Nos. 11002 (fruit), 9118 (flowers). October, 1923. A low shrub 2 feet high found in the alpine regions of Tsehchung at 13,000 feet altitude. It has elliptical-oval leaves, which are white beneath, and large carmine flowers.

59084. *RHODODENDRON* sp.

Nos. 11003 (fruit), 9278 (flowers). October, 1923. A low shrub 1 to 2 feet high found in the alpine regions of Tsehchung. Its small oval leaves are glabrous on both sides, but paler and dull green beneath; the flowers are a rich carmine.

59085. *RHODODENDRON PRAESTANS* Balf. f. and Smith.

Nos. 11013 (fruit), 19095 (flowers). October, 1923. A tree 12 to 15 feet high found on alpine slopes at 13,000 feet altitude. This striking species has large leaves 1 to 2 feet long, sessile and brownish gray beneath; the large flowers are purplish pink.

59086. *RHODODENDRON* sp.

Nos. 11014 (fruit), 9158 (flowers). October, 1923. A shrub 4 feet high found on the alpine slopes of Tsehchung at 13,000 feet altitude. The leaves are small, oval, papery, glabrous, and the flowers pale lavender.

59087. *RHODODENDRON* sp.

Nos. 11015 (fruit), 8777 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found in forests on the slopes of the Tsehchung Mountains at 10,000 feet altitude. This handsome species has leaves which are oblong, dull green, and glabrous; its pinkish purple flowers are in large umbels.

59000 to 59268—Continued.

59088. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 11016 (fruit), 8790 (flowers). October, 1923. A small tree 8 to 10 feet high found on the slopes of Tsehchung at 10,000 feet altitude. Its obovate-acute, oblong leaves are covered with brown tomentum beneath, and its large flowers are reddish purple.

59089. RHODODENDRON sp.

Nos. 11017 (fruit), 9108 (flowers). October, 1923. A shrub 8 feet high found on the alpine slopes of Tsehchung at 12,000 feet altitude. The oblong leaves are dark green above and smooth and brown beneath; the flowers are pink.

59090. RHODODENDRON sp.

Nos. 11018 (fruit), 9209 (flowers). October, 1923. A low-growing shrub 2 feet tall found in the alpine regions of Tsehchung at 12,000 feet altitude. This striking species has small oval leaves, which are white beneath, and very rich carmine flowers.

59091. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 11023 (fruit), 8738 (flowers). October, 1923. A shrub 5 to 6 feet high found at the Sila Pass of the Mekong-Salwin Divide at 14,000 feet altitude. The lanceolate leaves are brown tuberculate beneath, and the flowers are a handsome rich pink.

59092. RHODODENDRON sp.

Nos. 11024 (fruit), 9220 (flowers). October, 1923. A small shrub 2 to 3 feet high found at the Sila Pass on the Mekong-Salwin Divide at an altitude of 14,000 feet. The leaves are elliptical-oblong, mucronate, and drab to white beneath; the flowers are medium sized and a deep blackish crimson.

59093. RHODODENDRON sp.

Nos. 11026 (fruit), 9216 (flowers). October, 1923. A small shrub 4 feet high found at the Sila Pass on the Mekong-Salwin Divide at an altitude of 13,000 feet. The oval subcordate leaves are glabrous and pale beneath; the flowers are a pale yellowish pink.

59094. RHODODENDRON sp.

Nos. 11027 (fruit), 9231 (flowers). October, 1923. A shrub 6 feet high found at the Sila Pass of the Mekong-Salwin Divide at between 10,000 and 11,000 feet altitude. The obovate leaves are glabrous and paler beneath, and the flowers are pinkish purple.

59095. RHODODENDRON sp.

Nos. 11028 (fruit), 9203 (flowers). October, 1923. A small shrub 5 feet high found along a stream in the Sila Pass of the Mekong-Salwin Divide at 11,000 feet altitude. The oblong leaves are glabrous and paler beneath, and the large flowers are a rich pink spotted with purple.

59096. RHODODENDRON sp.

Nos. 11029 (fruit), 9214 (flowers). October, 1923. A low shrub 2 feet high found at the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The elongate-elliptical leaves are dark green above and white beneath; the large flowers are a very dark carmine.

59097. RHODODENDRON sp.

Nos. 11030 (fruit), 8743 (flowers). October, 1923. A shrub or small tree 5 or 6 feet high found along the alpine brooks in the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The obovate-glabrous leaves are golden yellow beneath, and the flowers are large and white.

59000 to 59268—Continued.

59098. RHODODENDRON sp.

Nos. 11031 (fruit), 9198 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at between 12,000 and 13,000 feet altitude. The oval to obovate leaves are glabrous and golden yellow beneath; the flowers are a yellowish pink.

59099. RHODODENDRON sp.

Nos. 11032 (fruit), 8748 (flowers). October, 1923. A low shrub 4 to 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The oblong to obovate leaves are golden yellow and glabrous beneath. The flowers are pale pink.

59100. RHODODENDRON FULVOIDES Balf. f. and Forrest.

Nos. 11034 (fruit), 9223 (flowers). October, 1923. A shrub or small tree 14 to 15 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The obovate leaves are dark green above and covered with brown tomentum beneath; the small rich-pink flowers are on slender pedicels.

59101. RHODODENDRON sp.

Nos. 11038 (fruit), 9207 (flowers). October, 1923. A shrub 7 to 8 feet tall found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The large obovate leaves are golden yellow beneath, and the very large flowers are a showy yellowish pink.

59102. RHODODENDRON sp.

Nos. 11041 (fruit), 8742 (flowers). October, 1923. A low shrub 3 to 4 feet high found on the Sila Pass on the Mekong-Salwin Divide. The obovate leaves are golden yellow beneath, and the flowers are a rich pink with a purplish tinge.

59103. RHODODENDRON SERPENS Balf. f. and Forrest.

Nos. 11042 (fruit), 9233 (flowers). October, 1923. A low shrub 1 to 2 feet high found on the Sila Pass on the Mekong-Salwin Divide. The obovate rounded leaves are glabrous and grayish green beneath; the flowers are carmine with a purplish tinge.

59104. RHODODENDRON sp.

Nos. 11043 (fruit), 8763 (flowers). October, 1923. A tree 18 feet high found on the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The large oblong leaves are dark green above and deep brown tomentose beneath; the very striking large white flowers are on long pedicels.

59105. RHODODENDRON sp.

Nos. 11045 (fruit), 8746 (flowers). October, 1923. A small tree 8 to 10 feet high found growing on the Sila Pass on the Mekong-Salwin Divide at 11,000 feet altitude. The linear-elongate leaves are dark blackish gray beneath and dark green above, and the large flowers are a beautiful rose pink.

59106. RHODODENDRON sp.

Nos. 11047 (fruit), 9212 (flowers). October, 1923. A low shrub 2 feet high found growing in masses on the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The elliptical leaves are grayish brown on top and chocolate color beneath; the flowers are dark crimson.

59107. RHODODENDRON sp.

Nos. 11050 (fruit), 9237 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found on the Sila Pass on the Mekong-Salwin Divide at about 11,000 feet altitude. The obovate leaves are golden yellow beneath, and the very large flowers are pinkish purple.

59000 to 59268—Continued.

59108. RHODODENDRON sp.

Nos. 11054 (fruit), 8741 (flowers). October, 1923. A small shrub 4 feet high found on the Sila Pass on the Mekong-Salwin Divide. The ovate-oblong leaves are glabrous and pale beneath, and the small flowers are a rich purple.

59109. RHODODENDRON sp.

Nos. 11055 (fruit), 9238 (flowers). October, 1923. A tall shrub 7 to 8 feet high found on the Sila Pass at 12,000 feet altitude. The oblong leaves are golden yellow beneath and glabrous, and the flowers are medium yellow.

59110. RHODODENDRON sp.

Nos. 11056 (fruit), 9205 (flowers). October, 1923. A shrub 6 to 8 feet high found on the Sila Pass at 12,000 feet altitude. The oval leaves are glabrous and pale yellow beneath, and the large flowers are rich yellow.

59111. RHODODENDRON sp.

Nos. 11057 (fruit), 9200 (flowers). October, 1923. A shrub 6 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The oblong leaves are a rich green, pale golden green beneath, and the flowers are pale pink.

59112. RHODODENDRON sp.

Nos. 11059 (fruit), 9204 (flowers). October, 1923. A shrub 6 to 8 feet high found on the Sila Pass on the Mekong-Salwin Divide at 13,000 feet altitude. The broad obovate-oblong leaves are glabrous and green on both sides; the flowers are a dark reddish purple.

59113. RHODODENDRON sp.

Nos. 11061 (fruit), 8744 (flowers). October, 1923. A low shrub only 3 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The obovate leaves are yellowish green beneath and glabrous; the flowers are deep purple carmine.

59114. RHODODENDRON sp.

Nos. 11063 (fruit), 9219 (flowers). October, 1923. A shrub 5 to 6 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The leaves are oval, pale green, and glabrous beneath; the large flowers are purple pink.

59115. RHODODENDRON sp.

Nos. 11064 (fruit), 9199 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The leaves are ovate-subcordate, green on both sides, and glabrous; the flowers are pale pink.

59116. RHODODENDRON sp.

Nos. 11065 (fruit), 9240 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass, Mekong-Salwin Divide. The elliptical leaves are glaucous green beneath, and the flowers are pale cream color.

59117. RHODODENDRON sp.

Nos. 11066 (fruit), 9213 (flowers). October, 1923. A shrub 5 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The oval leaves are green on both sides and glabrous; the flowers are orange-pink.

59118. RHODODENDRON sp.

Nos. 11068 (fruit), 8761 (flowers). October, 1923. A small tree 8 feet high found growing on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The large oblong leaves are covered beneath with a fine brown tomentum and the medium-sized flowers are rose-red.

59000 to 59268—Continued.

59119. RHODODENDRON sp.

No. 11069. October, 1923. A small tree 10 feet high found on the Sila Pass on the Mekong-Salwin Divide at 12,000 feet altitude. The large obovate leaves are covered with a chocolate-brown tomentum; the flowers are said to be white.

59120. RHODODENDRON sp.

Nos. 11072 (fruit), 10052 (flowers). October, 1923. A very aromatic shrub 7 feet high found in the mountains of Tseku between 10,000 and 12,000 feet altitude. The pink flowers have a purple tinge.

59121. RHODODENDRON sp.

Nos. 11073 (fruit), 8773 (flowers). October, 1923. A low shrub 4 feet high found on the mountains of Tseku and Tsehchung, Mekong. The oblong-acute leaves are covered with a dense brown wool on the under side. The flowers are dark crimson.

59122. RHODODENDRON FORRESTII Balf. f.

Nos. 11074 (fruit), 8717 (flowers). October, 1923. A prostrate shrub collected on the alpine slopes of the Tseku Mountains at about 13,000 feet altitude. The small oval dark-green leaves are deep purple beneath, and the flowers are rich crimson.

59123. RHODODENDRON sp.

Nos. 11076 (fruit), 10053 (flowers). October, 1923. A low shrub only 1 foot high found on the alpine slopes of the Tseku Mountains at 13,000 feet altitude. The linear-coriaceous leaves have revolute margins and are covered with a dense rufous wool on the under side; the flowers are cream colored with purple spots.

59124. RHODODENDRON sp.

Nos. 11077 (fruit), 8719 (flowers). October, 1923. A low shrub 3 to 4 feet high found on the slopes of the Tseku Mountains, Mekong, at 10,000 feet altitude. The small oval leaves are green on both sides, but paler beneath, and the flowers are purplish pink.

59125. RHODODENDRON sp.

Nos. 11078 (fruit), 8715 (flowers). October, 1923. A shrub 4 feet high found on the Tseku Mountains at 10,000 feet altitude. The oval green leaves are glabrous on both sides, and the flowers are deep purplish red.

59126. RHODODENDRON sp.

Nos. 11080 (fruit), 8720 (flowers). October, 1923. A shrub 5 to 6 feet high collected in the Tseku Mountains at 12,000 feet altitude. The oblong-ovate leaves are pale green beneath and glabrous; the large flowers are pink red.

59127. RHODODENDRON sp.

Nos. 11081 (fruit), 8923 (flowers). October, 1923. A low shrub 3 feet high found in the alpine regions of the Tseku Mountains, Mekong. The under side of the obovate-oblong leaves is covered with chocolate-colored tomentum; the flowers are deep rich carmine.

59128. RHODODENDRON sp.

Nos. 11082 (fruit), 8725 (flowers). October, 1923. A small shrub 2 feet high found in the alpine regions of the Tseku Mountains at 13,000 feet altitude. The linear-oblong leaves are dark green above and silvery white beneath; the flowers are very dark carmine.

59129. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11083 (fruit), 8921 (flowers). October, 1923. A shrub 5 feet high found in the mountains of Tseku-Lauchaitung, Mekong Valley, at 10,000 feet altitude. The obovate leaves are rich brown tomentose beneath, and the flowers are snow white.

59000 to 59268—Continued.

59130. RHODODENDRON sp.

Nos. 11084 (fruit), 8922 (flowers). October, 1923. A low shrub 2½ feet high found in the mountains of Lauchaitung, Mekong Valley, at an altitude of 12,000 feet. The narrow linear leaves have revolute margins and are covered with dense rufous wool beneath.

59131. RHODODENDRON sp.

November, 1923. A shrub 5 to 6 feet high found on the slopes of Alolaka, Salwin Valley, at 11,000 feet altitude. The oblong-acute leaves are dark green above, paler and glabrous beneath; the buds are very dark carmine and the petioles deep red.

59132. RHODODENDRON sp.

Nos. 11085 (fruit), 9263 (flowers). November, 1923. A tall shrub 8 feet high found in the Peima Mountains at 14,000 feet altitude. The oval leaves, acute at both ends, are covered with brown flaky tomentum, and the pink flowers are spotted with purple.

59133. RHODODENDRON sp.

Nos. 11089 (fruit), 8869 (flowers). November, 1923. A low-growing shrub 2 to 3 feet high found in the high alpine meadows of the Peima Mountains, Mekong-Yangtze Divide, at 15,600 feet altitude. The small oval leaves are brown tomentose beneath; the small flowers are white.

59134. RHODODENDRON sp.

Nos. 11092 (fruit), 8847 (flowers). November, 1923. A low shrub 1 to 2 feet high found in the high alpine regions of the Peima Mountains at from 15,000 to 16,000 feet altitude. The very small leaves are grayish above and brown beneath; the small flowers are blue.

59135. RHODODENDRON sp.

Nos. 11106 (fruit), 8855 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 14,000 feet altitude. The leaves are linear lanceolate and covered with a brown tomentum beneath; the cream-colored flowers are spotted with purple.

59136. RHODODENDRON sp.

Nos. 11109 (fruit), 8849 (flowers). November, 1923. A low shrub 2 to 3 feet high found at 14,000 feet altitude in the Peima Mountains. The very small leaves are elliptical and brown beneath, and the small flowers are deep blue.

59137. RHODODENDRON sp.

Nos. 11110 (fruit), 8867 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 13,000 feet altitude. The leaves are linear lanceolate, acute, and glabrous; the flowers are white and the bracts large.

59138. RHODODENDRON sp.

Nos. 11111 (fruit), 8846 (flowers). November, 1923. A low-growing shrub 4 feet high collected in the Peima Mountains at 13,000 feet altitude. The ovate-oblong leaves are glabrous and green on both sides; the flowers are pale pinkish purple.

59139. RHODODENDRON sp.

Nos. 11112 (fruit), 9946 (flowers). November, 1923. A tall shrub, 6 to 8 feet, found growing in the Peima Mountains at 14,000 feet altitude. The lanceolate leaves are glabrous and the flowers pink, spotted with purple.

59140. RHODODENDRON sp.

Nos. 11116 (fruit), 9272 (flowers). November, 1923. A tall shrub 10 feet high found in the Peima Mountains at 14,000 feet altitude. The oblong leaves are deeply copper colored beneath, and the flowers are white.

59000 to 59268—Continued.

59141. RHODODENDRON sp.

Nos. 11119 (fruit), 8851 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 14,000 feet altitude. The leaves are oval acute at both ends and brown or yellowish tomentose beneath; the flowers are white with small purple spots.

59142. RHODODENDRON sp.

Nos. 11120 (fruit), 8860 (flowers). November, 1923. A small tree 6 to 8 feet high found on the Peima Mountains at 14,000 feet altitude. The oblong-acute leaves are covered with brown tomentum beneath, and the flowers are pale pink with deep-purple spots.

59143. RHODODENDRON sp.

Nos. 11121 (fruit), 8857 (flowers). November, 1923. A shrub 5 to 6 feet high collected at 14,000 feet altitude in the Peima Mountains. The leaves are ovate-oblong, brown to carmine tomentose beneath; the flowers are white and reddish purple.

59144. RHODODENDRON sp.

Nos. 11122 (fruit), 10358 (flowers). November, 1923. A shrub 7 to 8 feet high found at 14,000 feet altitude in the Peima Mountains. The oblong-acute leaves are deep brown tomentose beneath, and the flowers are pink.

59145. RHODODENDRON sp.

Nos. 11123 (fruit), 8926 (flowers). November, 1923. A shrub 5 feet high found at 14,000 feet altitude in the Peima Mountains. The linear-lanceolate leaves are covered on the under side with rust-brown flaky tomentum. The flowers are pink spotted with purple.

59146. RHODODENDRON sp.

Nos. 11124 (fruit), 9955 (flowers). November, 1923. A shrub 4 to 5 feet high collected at 14,000 feet altitude on the Peima Mountains. The oblong-acute leaves are dark-brown tomentose beneath, and the flowers are purple.

59147. RHODODENDRON sp.

Nos. 11125 (fruit), 9264 (flowers). November, 1923. A tall shrub 6 to 8 feet high collected at 14,000 feet altitude on the Peima Mountains. The oblong leaves are covered with pale-brown matted tomentum, and the white flowers are spotted with purple.

59148. RHODODENDRON sp.

Nos. 11126 (fruit), 9958 (flowers). November, 1923. A plant 5 inches high found on the high alpine meadows of the Peima Mountains at 15,000 feet altitude. The minute leaves are elliptical to ovoid and glabrous on both sides; the flowers are yellow.

59149. RHODODENDRON sp.

Nos. 11127 (fruit), 8848 (flowers). November, 1923. A low shrub 3 to 4 feet high found at 14,000 feet altitude on the Peima Mountains. The ovate-oblong leaves are glabrous, and the flowers are pinkish purple.

59150. RHODODENDRON sp.

Nos. 11128 (fruit), 9250 (flowers). November, 1923. A shrub 5 feet high found at 13,000 feet altitude in the Peima Mountains. The leaves are oval acute, subcordate base, and glabrous; the flowers are a rich lavender.

59151. RHODODENDRON sp.

There is no definite data available regarding these seeds, as they were received under a number belonging to a primrose.

59000 to 59268—Continued.

59152. RHODODENDRON sp.

Nos. 11130 (fruit), 9952 (flowers). November, 1923. A tiny shrub only 1 foot high found in the alpine meadows of the Peima Mountains at 15,000 feet altitude. The small oval leaves are brown and silky beneath, and the flowers are bluish purple.

59153. RHODODENDRON sp.

Nos. 11132 (fruit), 8866 (flowers). November, 1923. A small shrub 4 to 5 feet high found in the Peima Mountains at 13,000 feet altitude. The ovoid leaves are glabrous and paler beneath; the medium-sized flowers are lavender blue.

59154. RHODODENDRON sp.

Nos. 11133 (fruit), 9960 (flowers). November, 1923. A shrub 6 feet high found on the alpine slopes of the Peima Mountains at 14,000 feet altitude. The leaves are oblong, dark green with pale whitish yellow matted tomentum; the very large, rich purple flowers are spotted with dark purple.

59155. RHODODENDRON sp.

Nos. 11134 (fruit), 9947 (flowers). November, 1923. A shrub 5 feet high found at 14,000 feet altitude in the Peima Mountains. The ovate-acute leaves are dark green with revolute margins and are densely matted beneath with brown tomentum; the flowers are white.

59156. RHODODENDRON sp.

Nos. 11137 (fruit), 8947 (flowers). November, 1923. A low shrub 2 to 3 feet high found at 12,000 feet altitude in the alpine meadows of Litiping, Mekong-Yangtze Divide. The oval leaves are glabrous, and the bright-yellow flowers are in large umbels.

59157. RHODODENDRON sp.

Nos. 11139 (fruit), 9161 (flowers). November, 1923. A tree 12 to 15 feet high found at 12,000 feet altitude in the alpine forests of Litiping. The oblong glabrous leaves are green, and the deep-purple flowers are spotted with darker purple.

59158. RHODODENDRON sp.

Nos. 11140 (fruit), 9167 (flowers). November, 1923. A tall shrub 10 to 12 feet high found in the alpine forests of Litiping at 11,000 feet altitude. The oblong glabrous leaves are green, and the purple flowers are not spotted.

59159. RHODODENDRON sp.

Nos. 11141 (fruit), 9068 (flowers). November, 1923. A small shrub 4 to 5 feet high collected at 11,000 feet altitude on the slopes of the Yetche Mountains. The leaves are small, oval, green, and glabrous, and the flowers are lavender.

59160. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11142 (fruit), 9075 (flowers). November, 1923. A shrub 6 feet high found in the Yetche Mountains, Mekong Valley, at 10,000 feet altitude. The leaves are oblong, lanceolate, acute with brown tomentum beneath; the flowers are pink.

59161. RHODODENDRON sp.

Nos. 11143 (fruit), 8950 (flowers). November, 1923. A small shrub 3 feet high found at 12,000 feet altitude in the mountains of Anwa-Yetche. The leaves are oval, acute with pale-yellow matted wool; the flowers are pinkish red.

59162. RHODODENDRON sp.

Nos. 11144 (fruit), 8941 (flowers). November, 1923. A small shrub 3 feet high found at 14,000 feet altitude in the alpine regions of Anwa.

59000 to 59268—Continued.

The leaves are linear lanceolate, coriaceous, densely rufous woolly beneath; the handsome flowers are pure white.

59163. RHODODENDRON sp.

Nos. 11146 (fruit), 8957 (flowers). November, 1923. A shrub 4 feet high found in the alpine regions of Anwa, Mekong Valley. The leaves are linear-oblong, deeply rufous beneath; the large flowers are white.

59164. RHODODENDRON sp.

Nos. 11147 (fruit), 8930 (flowers). November, 1923. A shrub 4 feet high found in the alpine regions of Anwa at 13,000 feet altitude. The broadly obovate leaves are suborbicular, green, and glabrous; the large flowers are bright yellow.

59165. RHODODENDRON sp.

Nos. 11148 (fruit), 9391 (flowers). November, 1923. A little plant 1 foot high found on the alpine slopes of the Moting Mountains, north-east of Atuntze, at 14,000 feet altitude. The leaves are very small, oval, brown, and tuberculate beneath; the small flowers are yellow.

59166. RHODODENDRON sp.

Nos. 11154 (fruit), 10219 (flowers). A rare shrub only 1 foot high found in the Champutong Mountains, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are obovate elliptical with brownish black matted wool beneath; the flowers are yellowish red.

59167. RHODODENDRON sp.

Nos. 11157 (fruit), 10107 (flowers). October, 1923. A low shrub 1 to 3 feet high found at 13,000 feet altitude on the Champutong Mountains, Salwin-Irrawaddy Divide. The spatulate leaves are dark green and purplish black tomentose beneath; the rare flowers are yellowish red.

59168. RHODODENDRON sp.

Nos. 11158 (fruit), 10218 (flowers). October, 1923. A low shrub 1 to 2 feet high found at 13,000 feet altitude on the Champutong Mountains, Salwin-Irrawaddy Divide. The leaves are elliptical with drab tomentum beneath; the flowers are reddish purple.

59169. RHODODENDRON sp.

Nos. 11161 (fruit), 10109 (flowers). October, 1923. A small shrub 1 to 2 feet high found in the Champutong Mountains, Salwin-Irrawaddy Divide, at 14,000 feet altitude. The branches are stiff and erect, the elliptical leaves brownish beneath, and the flowers are yellow.

59170. RHODODENDRON sp.

Nos. 11163 (fruit), 10150 (flowers). October, 1923. A tree 8 to 10 feet high found at Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are obovate-oblong mucronate and densely matted with red-brown tomentum; the flowers are red.

59171. RHODODENDRON sp.

Nos. 11164 (fruit), 10162 (flowers). November, 1923. A small shrub 4 feet high found at 13,000 feet altitude on Mount Kenichunpu on the Salwin-Irrawaddy Divide. The leaves are obovate elliptical and covered with dark brownish black tomentum beneath; the flowers are pink.

59172. RHODODENDRON sp.

Nos. 11165 (fruit), 10120 (flowers). November, 1923. A tree 18 to 20 feet high found on Mount Kenichunpu on the Salwin-Irrawaddy Divide at 13,000 feet altitude. The very large leaves are obovate oblong, deep rich brown, and evenly tomentose beneath; the flowers are a rich yellow.

59000 to 59268—Continued.

59173. RHODODENDRON sp.

Nos. 11167 (fruit), 10223 (flowers). October, 1923. A small shrub 4 feet high found growing on Mount Kenichunpu, Champutong, at 12,000 feet altitude. The elliptic leaves are brownish glaucous and glabrous beneath; and the yellow flowers are on long pedicels.

59174. RHODODENDRON sp.

No. 11169. October, 1923. A very low shrub 1 to 2 feet high found growing in Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The obovate, spatulate leaves are glabrous, dark rich green above, and paler beneath. The flowers were not seen.

59175. RHODODENDRON sp.

Nos. 11175 (fruit), 10129 (flowers). October, 1923. A shrub 5 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The oval-obovate leaves are rich green above and chocolate colored beneath; the flowers are a rich red.

59176. RHODODENDRON sp.

Nos. 11176 (fruit), 10105 (flowers). October, 1923. A small shrub 1 to 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are small, elliptical, acute at both ends, and yellowish white tomentose beneath; the flowers are deep crimson.

59177. RHODODENDRON sp.

Nos. 11177 (fruit), 10098 (flowers). October, 1923. A shrub 2 to 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are elliptical, acute, and covered with white tomentum beneath; the flowers are very dark crimson.

59178. RHODODENDRON sp.

Nos. 11179 (fruit), 10145 (flowers). October, 1923. A tall shrub 7 to 8 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The oblong-acute leaves are long tapering at the base and densely squamately tomentose beneath; the flowers are red.

59179. RHODODENDRON sp.

Nos. 11180 (fruit), 10172 (flowers). October, 1923. A shrub 5 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The obovate-elliptical leaves are glabrous and golden yellowish green beneath; the flowers are red.

59180. RHODODENDRON sp.

Nos. 11181 (fruit), 10140 (flowers). October, 1923. A low shrub 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The elliptical leaves are brownish tomentose beneath, and the flowers are red.

59181. RHODODENDRON sp.

Nos. 11182 (fruit), 10133 (flowers). October, 1923. A shrub 6 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The obovate-oblong leaves are covered with squamose brown tomentum beneath, and the flowers are red.

59182. RHODODENDRON RADICANS Balf. f. and Forrest.

Nos. 11188 (fruit), 10122 (flowers). October, 1923. A prostrate plant only a few inches tall found between 14,000 and 15,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The very small leaves are elliptical and covered with pale-brown tomentum beneath, and the large bright-red flowers are on long pedicels.

59000 to 59268—Continued.

59183. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11189 (fruit), 10125 (flowers). October, 1923. A tree 10 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The linear-lanceolate leaves are a rich green above and dark brown woolly beneath; the flowers are pink.

59184. RHODODENDRON sp.

Nos. 11190 (fruit), 10195 (flowers). October, 1923. A shrub 6 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The leaves are oval, acute, subcordate, and have thin brownish tomentum beneath; the flowers are pink.

59185. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11192 (fruit), 10198 (flowers). A shrub or small tree 10 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The linear-oblong leaves are dull green above with the veins deeply impressed and reddish brown tomentose beneath; the flowers are pink.

59186. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11193 (fruit), 10117 (flowers). October, 1923. A shrub or tree 7 to 10 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The leaves are linear lanceolate, acuminate, and dark rufous woolly beneath; the flowers are pink.

59187. RHODODENDRON sp.

Nos. 11195 (fruit), 10113 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found at from 12,000 to 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oblong-acute leaves are greenish flaky and tomentose beneath; the flowers are pink.

59188. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 11196 (fruit), 10196 (flowers). October, 1923. A tree 8 to 10 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The oblong-acuminate leaves are covered with yellowish tomentum beneath, and both petioles and pedicels are hirsute; the flowers are pink.

59189. RHODODENDRON sp.

Nos. 11198 (fruit), 10126 (flowers). October, 1923. A very small shrub only 2 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The very small ovate leaves are tuberculate beneath, and the flowers are yellow.

59190. RHODODENDRON sp.

Nos. 11201 (fruit), 10199 (flowers). October, 1923. A shrub 6 feet high found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The large leaves are obovate-oblong with dense brown matted wool beneath; the flowers are scarlet.

59191. RHODODENDRON sp.

Nos. 11202 (fruit), 10149 (flowers). October, 1923. A shrub 7 to 8 feet high found at 12,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The linear-elliptical leaves are white and glaucous, glabrous beneath; the red flowers are on long pedicels.

59192. RHODODENDRON sp.

Nos. 11205 (fruit), 10170 (flowers). October, 1923. A small shrub 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oval-elliptical leaves are pale yellow and glabrous beneath; the flowers are red.

59000 to 59268—Continued.

59193. RHODODENDRON sp.

No. 11211. October, 1923. A tree 15 to 18 feet tall found at 13,000 feet altitude on Mount Kenichunpu, Salwin-Irrawaddy Divide. The large oblong leaves are densely matted brown tomentose beneath; flowers not seen.

59194. RHODODENDRON AMAUROPHYLLUM Balf. f. and Forrest.

No. 11238. October, 1923. A small shrub 1½ to 2 feet high found on the rocky slopes of Mount Kenichunpu at 13,000 feet altitude on the Salwin-Irrawaddy Divide. The small oval leaves are brown tomentose beneath, and the flowers are red.

59195. RHODODENDRON sp.

No. 11252. October, 1923. A shrub 8 feet high found at from 12,000 to 13,000 feet altitude on Mount Lauthun. The narrow elliptical leaves are deeply rufous woolly beneath, and the flowers are pink.

59198. RHODODENDRON sp.

No. 11260. October, 1923. A low shrub 2 feet high found at 10,000 feet altitude on the slopes of Mount Lauthun. The small linear leaves are revolute and pale brown beneath; the flowers are pale pink.

59197. RHODODENDRON sp.

Nos. 11269 (fruit), 8395 (flowers). October, 1923. A shrub 5 feet high collected on Mount Lauthun at 8,500 feet altitude. The oblong leaves are dark green, glabrous, paler underneath, and the deep purplish red flowers are on slender pedicels.

59193. RHODODENDRON sp.

Nos. 11270 (fruit), 8393 (flowers). October, 1923. A very tall shrub 12 feet high found at 8,500 feet altitude on Mount Lauthun. The leaves are oblong-oval and glabrous on hirsute petioles, and the flowers are a rich pink.

59193. RHODODENDRON sp.

Nos. 11271 (fruit), 8419 (flowers). October, 1923. A shrub 6 to 10 feet high found at 8,500 feet altitude on Mount Lauthun. The small oval leaves are deep brown beneath, and the large flowers shade from lavender to deep purple.

59200. RHODODENDRON sp.

No. 11272. October, 1923. A shrub or small tree 15 to 18 feet tall found on the slopes of Mount Shenzi. The large dark-green leaves are glabrous on both sides, and the large flowers are red.

59201. RHODODENDRON sp.

Nos. 11275 (fruit), 9607 (flowers). October, 1923. A shrub 6 feet high found on Mount Shenzi at 10,000 feet altitude. The large oblong, acute leaves are dark green and glabrous on both sides; the flowers are red.

59202. RHODODENDRON sp.

Nos. 11278 (fruit), 9503 (flowers). A low shrub 2 to 3 feet high found among rocks on Mount Shenzi at 13,000 feet altitude. The thick coriaceous leaves are densely covered with a rough brown cottony tomentum on the under side; flowers pink.

59203. RHODODENDRON sp.

Nos. 11280 (fruit), 8429 (flowers). October, 1923. A tree 12 to 15 feet high found at Labako at about 9,000 feet altitude. The oval-acute leaves are glabrous green on both sides, and the white flowers have a pinkish tinge.

59000 to 59268—Continued.

59204. RHODODENDRON sp.

No. 11283. October, 1923. A shrub 5 feet high found in forests at Labako at 10,000 feet altitude. The acute-elliptical leaves are rich green and glabrous on both sides; the flowers are pink.

59205. RHODODENDRON sp.

No. 11285. October, 1923. A small tree 10 feet high found on the alpine plains of Labako at 12,000 feet altitude. The linear leaves are almost needle shaped with long revolute margins; they are dark green above and rufous brown woolly beneath. The white flowers are in dense umbels.

59206. RHODODENDRON sp.

No. 11287. October, 1923. A shrub only 2 feet high found among rocks on the mountains of Labako at 12,000 feet altitude. The small oval leaves are brown and dotted beneath, and the flowers are red.

59207. RHODODENDRON sp.

No. 11288. October, 1923. A low shrub 3 feet high found in forests in the Labako Mountains at about 1,000 feet altitude. The roundish, oval leaves are glaucous-green beneath; the flowers are white.

59208. RHODODENDRON sp.

Nos. 11290 (fruit), 9533 (flowers). October, 1923. A shrub 6 feet high found in a fir forest on the Labako Mountains at 11,000 feet altitude. The ovate-oblong acute leaves are green and glabrous on both sides with hairy stems. The flowers are red.

59209. RHODODENDRON sp.

No. 11294. October, 1923. A low shrub 2 feet high found among rocks on the alpine regions of the Labako Mountains at 13,000 feet altitude. The small oval leaves are pale golden brown beneath and spotted; the flowers are a purple blue.

59210. RHODODENDRON sp.

Nos. 11295 (fruit), 9527 (flowers). October, 1923. A small shrub 2 feet high found on rocky slopes of the alpine regions in the Labako Mountains at 13,000 feet altitude. Leaves oval, densely brown dotted beneath; the flowers are deep indigo with a purplish tinge.

59211. RHODODENDRON sp.

Nos. 11296 (fruit), 9554 (flowers). October, 1923. A shrub 3 feet high found growing at about 13,800 feet altitude in the alpine meadows of the Labako Mountains. The leaves are small, oval, and densely dotted with brown beneath. The flowers are deep purplish blue.

59212. RHODODENDRON sp.

Nos. 11297 (fruit), 8444 (flowers). October, 1923. A handsome species 3 feet high found among rocks on the Labako Mountains at 11,000 feet altitude. The leaves are elliptical, acute at both ends, with revolute undulate margins and pale green beneath; the flowers are large and white.

59213. RHODODENDRON sp.

No. 11301. October, 1923. A shrub 5 feet high found on the summit of Mount Kintze, at 13,000 feet altitude. The margins of the needle-shaped leaves are so strongly revolute that they meet below; the flowers are white.

59000 to 59268—Continued.

59214. RHODODENDRON sp.

Nos. 11303 (fruit), 9494 (flowers). October, 1923. A very small shrub 1 foot high found in rocky regions of Mount Kintze, at about 13,000 feet altitude. The minute elliptical leaves are brown tomentose beneath, and the small flowers are pale blue.

59215. RHODODENDRON sp.

Nos. 11304 (fruit), 9492 (flowers). October, 1923. A very small plant 6 to 8 inches high found in the rocky alpine regions of Mount Kintze, at about 13,000 feet altitude. The minute elliptical leaves are brown beneath, and the flowers vary from purplish pink to red.

59216. RHODODENDRON sp.

Nos. 11305 (fruit), 9482 (flowers). October, 1923. A plant a few inches high found on the alpine slopes of Mount Kintze, at about 13,000 feet altitude. The small oval, acute leaves are glabrous beneath, and the crimson flowers are on long erect peduncles.

59217. RHODODENDRON sp.

Nos. 11306 (fruit), 9490 (flowers). October, 1923. A scaly prostrate shrub growing on the summit of Mount Kintze, at 13,000 feet altitude. The spatulate leaves are densely covered with cottony brown tomentum, and the flowers are white.

59218. RHODODENDRON sp.

No. 11307. October, 1923. A shrub 8 feet high found near the summit of Mount Kintze, at 13,000 feet altitude. The elliptical leaves are densely woolly beneath, and the flowers are white.

59219. RHODODENDRON sp.

No. 11308. October, 1923. A shrub 5 feet high found at 12,000 feet altitude on Mount Kintze. The leaves are elliptical, oblong, glabrous, and the flowers are yellow.

59220. RHODODENDRON sp.

Nos. 11310 (fruit), 8455 (flowers). October, 1923. A small plant 1 foot high found on the mountains in Luruako Labako, at 12,000 feet altitude. The oblong-acute leaves are elliptical and pale green on both sides; the flowers are pale pink.

59221. RHODODENDRON sp.

Nos. 11311 (fruit), 8461 (flowers). October, 1923. A shrub 5 to 6 feet high found on the mountains of Luruako at 12,000 feet altitude. The linear needle-shaped leaves have revolute margins and are densely rufous beneath; the white flowers grow in dense umbels.

59222. RHODODENDRON sp.

Nos. 11312 (fruit), 8465 (flowers). October, 1923. A low shrub 3 to 4 feet high found on the rocky slopes of the mountains of Luruako, at 12,000 feet altitude. The long linear-lanceolate leaves are a glossy dark green above and red rufous woolly beneath; the flowers are white.

59223. RHODODENDRON sp.

Nos. 11313 (fruit), 8462 (flowers). October, 1923. A small shrub 4 feet high found in the high mountains of Luruako at 12,000 feet altitude. The leaves are oval, acute, subcordate, and pale yellow to brown tomentose beneath. The flowers are pink.

59224. RHODODENDRON sp.

Nos. 11314 (fruit), 8464 (flowers). October, 1923. A shrub 4 to 5 feet high found in the high

59000 to 59268—Continued.

mountains of Luruako, at 13,000 feet altitude. The oblong-acute leaves are dark green and reticulate above and from pale yellow to brown tomentose beneath. The flowers are pink.

59225. RHODODENDRON sp.

No. 11315. October, 1923. A plant 2 feet high found in swampy situations or on slopes along streams on the mountains of Luruako at 10,000 feet altitude. The small, linear-elliptical leaves are pale brown dotted beneath, and the flowers are blue.

59226. RHODODENDRON sp.

Nos. 11316 (fruit), 9168 (flowers). October, 1923. A shrub 5 feet high found at the foot of the mountains of Litiping. It is a beautiful species with pale-green elliptical leaves and very fragrant large yellow flowers.

59227. RHODODENDRON sp.

Nos. 11321 (fruit), 9070 (flowers). October, 1923. A shrub 7 to 8 feet high found in alpine meadows on the slopes of the Litiping Mountains at 12,000 feet altitude. The oval-acute leaves are subcordate at the base and pale green glabrous beneath; the yellow flowers have a pinkish tinge.

59228. RHODODENDRON sp.

No. 11322. October, 1923. A shrub 6 to 8 feet high found in the mountains of Yetche at 12,000 feet altitude. The leaves are oblong, acute at both ends, and covered with soft brown tomentum beneath. Flowers unknown.

59229. RHODODENDRON sp.

No. 11325. November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at 14,000 feet altitude. The broadly oval leaves are coriaceous with deciduous tomentum.

59230. RHODODENDRON sp.

No. 11335. November, 1923. A shrub 6 feet high found on the Moting Mountains at about 14,000 feet altitude. The leaves are oval, oblong, acute, subcordate, and brown tomentose beneath. Flowers not seen.

59231. RHODODENDRON sp.

No. 11341. November, 1923. A shrub 5 to 6 feet high found on the high alpine slopes of the Peima Mountains between 14,000 and 15,000 feet altitude. The acute, obovate-oblong leaves are covered beneath with a faintly appressed brown silky tomentum. Flowers not seen.

59232. RHODODENDRON sp.

No. 11342. November, 1923. A shrub from 5 to 8 feet high, found on the alpine slopes of the Moting Mountains between 14,000 and 15,000 feet altitude. The oblong-acute leaves are covered with rufous-brown tomentum beneath.

59233. RHODODENDRON sp.

No. 11344. November, 1923. A shrub 6 to 8 feet high found on the alpine slopes of the Moting Mountains at from 14,000 to 15,000 feet altitude. The leaves are elliptical, oblong, acute, and rich brown tomentose beneath.

59234. RHODODENDRON SINO-GRANDE Balf. f. and Smith.

No. 11348. A tree from 20 to 25 feet high, with spreading branches, found below Shund-sungla, Mekong-Salwin Divide, at 11,500 feet altitude. The very large oblong leaves are broadest at the tip and are 2 feet long, dark green above, and silvery beneath. The large flowers are cream colored.

59000 to 59268—Continued.

59235. *RHODODENDRON FULVIDES* Balf. f. and Forrest.

No. 11351. November, 1923. A tree 18 to 20 feet high with branches more or less slender, found at 11,500 feet altitude below Shundsungla, Mekong-Salwin Divide. The leaves are obovate-oblong, acute, and brown tomentose beneath.

59236. *RHODODENDRON* sp.

No. 11354. November, 1923. A tree 18 feet high found in a mixed forest on the slopes of the Dokerla Mountains at 11,000 feet altitude. The leaves are linear-oblong, acute at both ends, evenly green, and glabrous on both sides; the flowers are red and the fruits numerous.

59237. *RHODODENDRON* sp.

No. 11355. November, 1923. A shrub 4 to 5 feet high found on the outskirts of the pine forest on the eastern slopes of the Karila-Yangtze Divide at 12,000 feet altitude. The broadly ovate-orbicular leaves are glaucous, glabrous beneath, and the flowers are said to be yellow.

59238. *RHODODENDRON* sp.

November, 1923. A large shrub 10 to 12 feet high found along the streams in forests on the Dokerla Mountains at 12,000 feet altitude. The dark-green oblong leaves are glabrous on both sides.

59239. *RHODODENDRON* sp.

No. 11358. December, 1923. A tree 12 to 15 feet high found along the streams in the forests of Pongela at 11,000 feet altitude. The linear-lanceolate leaves are dull green above, paler and glabrous beneath; the flowers are said to be purplish red.

59240. *RHODODENDRON* sp.

No. 11362. November, 1923. A low shrub 1 to 2 feet high found in swampy places near Haraku, Likiang Snow Range, at about 11,000 feet altitude. The small linear leaves are pale brown beneath, and the flowers are said to be whitish pink.

59241. *RHODODENDRON* sp.

Nos. 11364 (fruit), 8494 (flowers). November, 1923. A shrub 3 to 4 feet high found at 12,000 feet altitude on the Likiang Snow Range. The elliptical leaves are glabrous green on both sides, and the flowers are pale blue.

59242. *RHODODENDRON* sp.

Nos. 11366 (fruit), 8214 (flowers). November, 1923. A tree 12 feet high found between 10,000 and 11,000 feet altitude on the western slopes of the Likiang Snow Range. The linear-oblong leaves are glabrous and pale green beneath; the flowers are purple.

59243. *RHODODENDRON* sp.

Nos. 11368 (fruit), 8562 (flowers). November, 1923. A shrub 6 to 8 feet high found at 11,000 feet altitude on the Likiang Snow Range. The small, oval, acute leaves are pale yellow beneath, and the flowers are lavender.

59244. *RHODODENDRON* sp.

Nos. 11369 (fruit), 8212 (flowers). November, 1923. A shrub or small tree 8 feet high found on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The linear-oblong leaves are pale green and glabrous beneath; the flowers are purplish red and spotted with darker red.

59245. *RHODODENDRON NIPHARGUM* Balf. f. and Ward.

Nos. 11370 (fruit), 8218 (flowers). November, 1923. A tree 25 feet high found on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The obovate-oblong leaves are covered with ash-gray tomentum beneath, and the pale-pink flowers are on long pedicels in large umbels.

59000 to 59268—Continued.

59246. *RHODODENDRON NIPHARGUM* Balf. f. and Ward.

Nos. 11374 (fruit), 8216 (flowers). November, 1923. A tree 25 to 30 feet high with a trunk 1 foot in diameter found in forests on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The large leaves are silvery white beneath; the flowers, rose pink (not spotted), grow in large umbels.

59247. *RHODODENDRON* sp.

Nos. 11375 (fruit), 8215 (flowers). November, 1923. A tree 12 to 18 feet high found at Zinako on the western slopes of the Likiang Snow Range at 10,000 feet altitude. The leaves are linear-oblong, glabrous, and dull green; the large flowers are a delicate pink with a few purple spots.

59248. *RHODODENDRON* sp.

Nos. 11376 (fruit), 8217 (flowers). Zinako. November, 1923. A tree 15 to 18 feet high found at 10,000 feet altitude on the western slopes of the Likiang Snow Range. The oval-oblong, acute leaves are pale yellowish gray beneath, and the large flowers are uniformly pinkish purple and not spotted.

59249. *RHODODENDRON* sp.

Nos. 11377 (fruit), 8210 (flowers). November, 1923. A shrub 12 to 18 feet high found at 10,000 feet altitude in the forests above Ashi on the western slopes of the Likiang Snow Range. The oblong, bluntly acute leaves are pale green beneath, and the large dark-purple flowers are not spotted.

59250. *RHODODENDRON* sp.

Nos. 11378 (fruit), 8272 (flowers). November 1923. A small tree 15 feet high found at 11,000 feet altitude in the mountains of Sungkwe south of Likiang. The large oblong leaves are densely rufous brown beneath, and the flowers are white.

59251. *RHODODENDRON* sp.

Nos. 11380 (fruit), 8262 (flowers). November, 1923. A shrub 7 to 8 feet high found at 10,000 feet altitude in the Sungkwe Mountains south of Likiang. The elliptical-oblong leaves are pale green and paler beneath; the flowers are deep reddish purple.

59252. *RHODODENDRON* sp.

No. 11390. November, 1923. A shrub 6 to 8 feet high found in the fir forests of Litiping on the Mekong-Yangtze Divide. The linear-oblong, narrow leaves are dark green, paler beneath, and the flowers are purple.

59253. *RHODODENDRON* sp.

Nos. 11392 (fruit), 8362 (flowers). October, 1923. A small shrub 3 to 4 feet high found growing on dry rocky limestone slopes at the edge of pine forests beyond Heshwe, east of the Likiang Snow Range, at 11,000 feet altitude. The obovate-acute leaves are a pale golden brown beneath, and the flowers are a rich bluish lavender.

59254. *RHODODENDRON* sp.

Nos. 11393 (fruit), 8331 (flowers). October, 1923. A shrub 4 feet high found among limestone boulders in a larch forest on the road to Baynva, east of the Likiang Snow Range, at 11,000 feet altitude. The elliptical-oval leaves are silky brown beneath, and the flowers are deep lavender.

59255. *RHODODENDRON* sp.

No. 11395. November, 1923. A small tree 25 feet high found in a fir forest on the western slopes of the Likiang Snow Range at 12,000 feet altitude. The large oblong leaves are dark green and densely rufous brown woolly beneath; the flowers are pink.

59000 to 59268—Continued.

59258. RHODODENDRON sp.

No. 11396. November, 1923. A shrub 8 feet high found at about 13,000 feet altitude on the western slope of the Likiang Snow Range. The oblong, acute leaves are yellowish brown tomentose beneath, and the flowers are white.

59257. RHODODENDRON sp.

No. 11401. November, 1923. A low shrub 2 feet high found among rocks at Haraku on the eastern slopes of the Likiang Snow Range. The small, narrow, linear leaves are brownish beneath, and the fragrant flowers are white.

59258. RHODODENDRON RACEMOSUM Franch.

No. 11415. November, 1923. A low shrub 2 feet high found in a drier region on the rocky slopes of the Likiang Snow Range at from 9,500 to 11,000 feet altitude. The leaves are small, oval, and white beneath; the flowers are pale pink.

59259. RHODODENDRON sp.

No. 11434. November, 1923. A shrub 2 feet high found among rocks on the alpine slopes of the Likiang Snow Range between 14,000 and 15,000 feet altitude. The small elliptical-spatulate leaves are bronze colored, and the flowers are deep red.

59260. RHODODENDRON sp.

No. 11459. November, 1923. A shrub 6 feet high found on the alpine slopes of the Likiang Snow Range at 14,000 feet altitude. The oblong, acute leaves are pale yellow beneath, and the large flowers are pure white.

59261. RHODODENDRON sp.

No. 11463. Nadchua. November, 1923. A tree 15 to 18 feet high found among rocks at 14,000 feet altitude on the Likiang Snow Range. The leaves are large, oblong, acute, silky, faintly brown tomentose beneath; the very large flowers are pink.

59262. RHODODENDRON sp.

No. 11465. Nadchua. November, 1923. A plant 1 foot high found on the rocky slopes of the Likiang Snow Range at 14,500 feet altitude. The very small leaves are elliptical, oval, and brown beneath; the flowers are indigo blue.

59263. RHODODENDRON sp.

No. 11460. November, 1923. A plant a foot high found in alpine meadows on the Likiang Snow Range at 15,000 feet altitude. The very small oval leaves are brown beneath, and the small flowers are deep purplish blue.

59264. ROSA OMEIENSIS Rolfe. Rosaceæ. Rose.

No. 11361. December, 1923. A shrub 12 to 15 feet high found on the Kari Pass, Yangtze Divide, at 13,000 feet altitude. The bush branches from the base, and the young branches, broadly winged, are carmine. The flowers are white over red.

For previous introduction, see S. P. I. No. 53737.

59265. SAUSSUREA GOSSIPIPHORA D. Don. Asteraceæ.

No. 11472. November, 1923. A curious plant 1½ feet high found among limestone rocks, at 15,500 feet altitude on the Likiang Snow Range. The basal leaves are linear lanceolate and the head oblong and densely cottony; the flower heads are buried in cottony scales.

59266. SORBUS sp. Malaceæ.

No. 11070. October, 1923. A tree 10 feet high found on the mountains of Tsehchung, at 10,000 feet altitude. The small pinnate leaves are pale beneath, and the flowers are a deep red. The fruits are also red.

59000 to 59268—Continued.

59267. SWERTIA sp. Gentianaceæ.

No. 11447. November, 1923. A plant 1 foot high found in alpine meadows, at 13,000 feet altitude on the Likiang Snow Range. The leaves are stem clasping, and the large handsome flowers are rich lavender blue.

59268. VACCINIUM sp. Vacciniaceæ.

No. 11490. November, 1923. A shrub 3 feet high found on the rocky slopes of the Lanchun Mountains, at 10,000 feet altitude. The small leaves are obovate, spatulate, and green on both sides; the globose, bluish black fruits are edible.

59269 to 59273. FICUS CARICA L. Moraceæ. Fig.

From Tiziuzu, Algeria. Cuttings presented by E. Rolland. Received April 18, 1924. Notes by Mr. Rolland.

59269. *Tharanimth Amelal Embgais*; a white fig from Bougie.

59270. *Tharanimth Sultane*; same as the Spanish variety "Cou de Dames."

59271. *Tharanimth Sadfar*; a rock fig from Sidi Belloua.

59272. *Tharanimth Baquor Gberkanen*, a black flowering fig from Delhys.

59273. *Tharanimth Sultane Amrabob*.

59274 and 59275.

From Manila, Philippine Islands. Seeds presented by Adriano Hernandez, Director, Bureau of Agriculture. Received April 15, 1924.

59274. DILLENIA PHILIPPINENSIS Rolfe. Dilleniaceæ.

Katmon. As described by W. H. Brown (Wild Food Plants of the Philippines, p. 116) this is a large, handsome tree about 60 feet in height, with oval, leathery, shining leaves and very attractive single white flowers about 6 inches wide. The roundish fruits, 2 inches in diameter, contain an edible, soft, green, juicy pulp with acid flavor. Although not particularly good when fresh, the fruits make an excellent jam. This species is very common throughout the Philippines.

For previous introduction, see S. P. I. No. 38383.

59275. MUSA PARADISIACA L. Musaceæ. Plantain.

Butuan. An edible, seed-bearing variety from the Philippines; introduced for use in banana-breeding experiments.

59276 to 59278. RUBUS spp. Rosaceæ.

From Orleans, France. Plants purchased from the Grandes Roseraies du Val de la Loire. Received April 18, 1924.

59276. RUBUS FLAGELLIFLORUS Focke.

An evergreen or partly deciduous, shrubby, climbing species about 8 feet high, with simple, heart-shaped leaves, white flowers, and medium-sized, glossy black fruits. Native to central and western China at altitudes of 4,000 to 6,000 feet.

59277. RUBUS HENRYI Hemsl. and Kuntze.

A handsome evergreen species, of graceful habit, with trailing shoots 10 to 15 feet long. The leaves, 4 to 6 inches long, are covered beneath with a white felt; the pink flowers are about three-fourths of an inch across; the fruits are shining black. Native to central and western China.

59278. RUBUS POLYTRICHUS Progel.

A thornless, very ornamental species, covered with red hairs and having entire, light-green leaves.

59279. SOCRATEA EXORRHIZA (Mart.)
Wendl. Phœnicaceæ. Palm.

From Rio de Janeiro, Brazil. Seeds presented by Dr. L. H. Bailey, Ithaca, N. Y. Received April 17, 1924.

This tall, handsome, spineless palm from tropical South America has a swollen cylindrical trunk elevated on a pyramid of exposed roots, which gives it a remarkable appearance. The trunk, 35 feet or more in height, bears at its summit a crown of large, irregularly pinnate leaves; the flowers are small and yellow and the fruits olive green.

59280 to 59284.

From Addis Ababa, Abyssinia. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received April 18, 1924. Notes by Doctor Shantz.

59280 and 59281. *CICER ARIETINUM* L. Fabaceæ.
Chick-pea.

59280. (No. 61. February 4, 1924.) Black form from market. This is one of the important crops in grain rotation. Black plants do not produce brown seeds; these seem to be on separate plants.

59281. (No. 62. February 4, 1924.) Mostly brown seeds.

59282. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceæ. Sorghum.

(No. 66. February 4, 1924.) Type of sorghum sold in market.

59283. *PISUM SATIVUM* L. Fabaceæ. Pea.

(No. 64. February 4, 1924.) From market.

59284. *TRITICUM DURUM* Desf. Poaceæ.
Durum wheat.

(No. 56. February 4, 1924.) A wheat with a dark perianth; may be of value for breeding purposes.

59285 to 59288.

From Angol, Chile. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received April 19, 1924.

Introduced for testing by cerealists.

59285. *AVENA STERILIS* L. Poaceæ. Oats.
Avena rubia.

59286 and 59287. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

59286. *Chuskin.* 59287. *Florencio.*

59288. *ZEA MAYS* L. Poaceæ. Corn.

A local 12-rowed flint variety with ears 8 inches long. (*Richey and Emerson.*)

59289. COLOCASIA ESCULENTA (L.)
Schott. Araceæ.

From Dominica, British West Indies. Rootstocks presented by Joseph Jones, curator, Botanic Gardens. Received April 22, 1924.

The "sulphur dasheen," as this is known here, has handsome red leafstalks and is worth growing as an ornamental. The tubers are sometimes used as food, but are inferior to those of the common dasheen. The name "sulphur" probably refers to the color of the interior of the tubers. (*Jones.*)

59290 and 59291. TRIFOLIUM PRATENSE
L. Fabaceæ. Red clover.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received April 23, 1924.

Locally grown seeds introduced for clover specialists.

59290. From Cotes du Nord.

59291. From Aisne.

59292. TALINUM TRIANGULARE (Jacq.)
Willd. Portulacaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received April 22, 1924.

An erect, branching, herbaceous plant, about 3 feet high, native to the West Indies, and recently introduced from Java into the Philippine Islands. The flowers are pink and produced in great profusion. In the Philippines the fleshy, tender leaves are boiled like spinach and served with meat, for which purpose they are excellent. The plant is easily propagated by cuttings. (*Wester.*)

For previous introduction, see S. P. I. No. 57819.

59293. KHAYA NYASICA Stapf. Meliaceæ.

From Mount Silinda, Southern Rhodesia. Seeds presented by Dr. W. L. Thompson. Received April 19, 1924.

The red mahogany is one of our most valuable timber trees and is widely distributed over Mozambique. It is fairly rapid in growth, though not equal to some of the eucalypts in this respect. It is found most often growing near streams, but also on high ground at a distance from water. The timber is very durable and is not attacked by white ants or borers. (*Thompson.*)

59294 to 59298.

From Amsterdam, Netherlands. Seeds presented by the director, Botanic Garden. Received April 22, 1924.

A collection of leguminous plants and grasses introduced for forage-crop specialists.

59294. *AESCHYNOMENE INDICA* L. Fabaceæ.

A bushy leguminous annual 1 to 3 feet high, native to the Tropics, with pale-green, feathery leaves. Procured for trial as fodder and as green manure.

59295. *BRACHYPODIUM MEXICANUM* (Roem. and Schult.) Link. Poaceæ. Grass.

An erect annual Mexican grass with rather narrow rough but succulent leaves. Its ultimate height is about 3 feet.

59296. *MELICA ALTISSIMA* L. Poaceæ. Grass.

A rather tall perennial European grass, 3 to 4 feet in height, with creeping rhizomes which form a loose turf. The leaf sheaths and the backs of the leaves are very rough.

59297. *SUTHERLANDIA FRUTESCENS* (L.) R. Br. Fabaceæ.

A leguminous shrub about 3 feet in height, with finely pinnate leaves and showy scarlet flowers produced in short axillary racemes. Native to the Mediterranean countries.

59298. *SYNTHESISMA SANGUINALIS* (L.) Dulac. Poaceæ. Crab grass.

Introduced for varietal studies.

59299 and 59300. TRIFOLIUM PRATENSE
L. Fabaceæ. Red clover.

From Budapest, Hungary. Seeds purchased from the Royal Hungarian Seed-Control Station. Received April 23, 1924.

Locally grown seeds introduced for clover specialists.

59299. From the central part of the great Hungarian plain between the Danube and the Theiss Rivers.

59300. From the western part of Hungary, near the Styrian border.

59301 to 59304.

From Soledad, Cienfuegos, Cuba. Seeds collected by David Fairchild, Bureau of Plant Industry. Received April 17, 1924.

59301. *ALEURITES MOLUCCANA* (L.) Willd. (*A. triloba* Forst.). Euphorbiaceæ. Lumbang.

No. 14. This appears to be different from the tree as it is now growing in Florida. Since the lumbang is a very promising tree for nut culture in southern Florida, we ought to get all possible strains for our collection.

For previous introduction, see S. P. I. No. 52755.

59302. *CEDRELA ODORATA* L. Meliaceæ.

No. 15. This is the tree which produces the cigar-box wood of Cuba. It deserves to be tried in Florida as a possible timber tree.

A tree, sometimes 100 feet tall, with handsome bright-green compound leaves 10 to 20 inches long. Native to the West Indies.

59303. *SERJANIA PANICULATA* H. B. K. Sapindaceæ.

No. 16. An ornamental vine with white flowers and handsome clusters of fruits; these have white arils and red bracts. This vine would be useful for pergolas.

59304. *TRICHOSTIGMA OCTANDRA* (L.) H. Walter (*Villamilla octandra* Hook. f.). Phytolaccaceæ.

No. 17. *Juaniqui* (Cuban name). The larger twigs of this tree are used like osier willow twigs, for the manufacture of baskets, and an extensive trade is carried on here in Cuba.

59305 to 59317.

From Soledad, Cienfuegos, Cuba. Seeds collected by David Fairchild, Bureau of Plant Industry. Received April 21, 1924.

59305. *ASSONIA MASTERSII* (Hook.) Kuntze (*Dombeya mastersii* Hook.). Sterculiaceæ.

No. 25. An ornamental shrub closely related to *Assonia wallichii*, with rosy white flowers.

A shrub 4 or 5 feet high, native to tropical Africa. The leaves are velvety, heart shaped, and serrate, and the flowers are fragrant.

59306. *CAJAN INDICUM* Spreng. Fabaceæ.

Pigeon pea.

No. 29. A strain, brought by R. M. Grey into Cuba from Haiti, which may be more resistant to weevils than the common form.

59307. *CANAVALI RUSIOSPERMUM* Urban. Fabaceæ.

No. 30. An ornamental climber with brilliant red beans; it would be excellent for dooryard gardens in Florida.

59308 to 59310. *CARICA PAPAYA* × *POSOPOSA*. Papayaceæ.

These appear to be hybrids between a very large-fruited papaya and a species with very small round fruits which Mr. Grey thinks may be *Carica posoposa*. There are several types of these hybrids which differ not only in the shape of the fruits but also in seed characters.

59308. A hybrid papaya.

59309. A good melon papaya type.

59310. A top-shaped papaya type; the fruit weighed 12 pounds.

59311. *CARICA POSOPOSA* L. Papayaceæ.

No. 21. The small round fruits are produced in crowded racemes at the summit of the stem. This species may be of use for breeding purposes.

59305 to 59317—Continued.

59312. *CASSIA FISTULA* L. Cæsalpiniaceæ.

No. 23. The *golden shower* is a handsome yellow-flowered tree introduced into the West Indies from India. The large pinnate leaves have four to eight pairs of leaflets, and the black, cylindrical pods, 1 or 2 feet long, are the "cassia pods" of commerce.

59313. *EUGENIA UNIFLORA* L. Myrtaceæ.

Pitanga.

No. 32. This is like the ordinary pitanga except that it has smaller seeds than any I have observed in Florida. An improved variety should come from these seeds.

59314. *GARCINIA TINCTORIA* (DC.) W. F. Wight (*G. xanthochymus* Hook. f.). Clusiaceæ.

No. 33. These seeds are from a large tree growing at the Cuban Gardens, Cienfuegos, sent by the Office of Foreign Seed and Plant Introduction to Mr. Grey in 1907. Its deep-green foliage and handsome crown make it a very attractive ornamental. The tree was loaded with its brilliant yellow fruits, which are delicious when eaten with plenty of sugar; the sharp acid flavor is quite different from that of the citrus fruits. The yellow fruits are worthy of a place on the American table, either for direct use with sugar or for sherbet and ice cream. The tree ripens its fruits in southern Florida in April or even earlier and deserves to be popularized as a fruit tree for small places.

For previous introduction, see S. P. I. No. 55454.

59315. *LAGERSTROEMIA SPECIOSA* (Muenchh.) Pers. (*L. flos-reginae* Retz.). Lythraceæ.

Crape myrtle.

No. 24. A tree crape myrtle from the Malay Archipelago which deserves to be better known in southern Florida.

A tree 50 to 60 feet tall, with leaves resembling somewhat those of the guava, and pink or purplish flowers about 2 inches wide, produced in immense panicles.

For previous introduction, see S. P. I. No. 49538.

59316. *LATANIA LODDIGESII* Mart. Phœnicaceæ.

Palm.

No. 30. A magnificent palm from Mauritius, which grows close to the seashore, producing a most tropical effect. It is peculiarly suited to conditions in southern Florida, although rare in that region.

For previous introduction, see S. P. I. No. 51721.

59317. *TINNEA AETHIOPICA* Kotschy and Peyr. Menthaceæ.

No. 26. An ornamental flowering shrub from tropical Africa.

A much-branched shrub about 4 feet high, with oblong, short-stemmed leaves. The dark, purplish brown flowers are produced in axillary whorls.

59318 to 59323.

From Giza, Egypt. Seeds presented by the director of the horticultural section, Ministry of Agriculture. Received April 16, 1924.

A collection of leguminous plants obtained for the use of specialists experimenting with green-manure and cover-crop plants.

59318 to 59321. *CROTALARIA* spp. Fabaceæ.

59318. *CROTALARIA CANDICANS* Wight and Arn.

A stiffly erect, much-branched, shrubby species, with hairy and somewhat leathery, broadly rounded leaves, and panicles of small, silky, yellow flowers. Native to southwestern India.

59318 to 59323—Continued.

59319. *CROTALARIA CAPENSIS* Jacq.

A stout, much-branched, South African shrub about 4 feet in height, with broadly oval leaves and pure yellow flowers in many-flowered racemes.

59320. *CROTALARIA LEIOLOBA* Bartling.

A species from the mountainous districts of northeastern India, and also distributed through the East Indies. It is one of the more robust of the herbaceous species, with finely silky branches and leaves, the latter being oblong and about 2 inches in length.

59321. *CROTALARIA TETRAGONA* Roxb.

An erect, stiff shrub, often 6 feet in height, which grows wild in the Himalayas of northeastern India, ascending to an altitude of 3,500 feet. The thinly silky, membranous, narrow leaves are sometimes a foot long, and the lemon-yellow flowers are produced in lax racemes 6 inches or more in length.

59322. *SESBAN SERICEUM* (Willd.) DC. Fabaceae.

An unarmed shrubby annual, often several feet in height, native to the plains of Ceylon. The silky, pinnate leaves are about a foot in length, and the flowers, pale yellow dotted with red, are in lax racemes.

59323. *SESBAN* sp. Fabaceae.

Received as *Sesban aculeatum*, but the seeds do not appear to be that species.

59324 to 59327.

From Athens, Greece. Scions presented by P. O. Anagnostopoulos, director, horticultural station. Received April 25, 1924. Notes by Mr. Anagnostopoulos.

A collection of apple and pear varieties introduced from Greece for testing by pomologists.

59324. *MALUS* sp. Malaceae. Apple.

Feriki. Trees of good size and thrifty, bearing regularly and heavily. Fruit conical, mostly one sided; color yellow with cheeks streaked with red; quality good; time of harvesting September; good keeper.

59325 to 59327. *PYRUS* spp. Malaceae. Pear.59325. *PYRUS* sp.

Kontoula. One of the popular summer varieties. Fruits juicy, of good flavor; shape pyriform; length about 2 inches; color light yellow. Ripens in July.

59326. *PYRUS* sp.

Skopelitico. Tree of medium size; fruit pyriform, $2\frac{1}{2}$ to $3\frac{1}{2}$ inches long; color yellow with red cheek; flesh somewhat coarse. Season, middle to end of July. Ships well when gathered slightly green.

59327. *PYRUS* sp.

Traconico. The winter pear of Greece. Shape pyriform; size 2 to 3 inches long. Flesh juicy and of good quality. When gathered in the fall it keeps all winter.

59328 and 59329.

From Loanda, Angola. Seeds presented by Reed Paige Clark, American consul, Loanda, through C. V. Piper, Bureau of Plant Industry. Received April 23, 1924.

The two forage grasses in this shipment were grown in the Loanda consular district, Angola, and are intended for the use of department forage-crop specialists. The native names given are those used in connection with the export statistics of these seeds at Loanda.

59328 and 59329—Continued.

59328. *CHAETOCLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

Painco or *milho painco*.

59329. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

Massambala.

59330. *ALLIUM CEPA* L. Liliaceae. Onion.

From Valencia, Spain. Seeds purchased through Clement S. Edwards, American consul. Received April 25, 1924.

In order to assist horticulturists carrying on onion-selection experiments, this shipment of authentic Denia onion seeds has been obtained from Spain. In the United States this variety is carried under the name Prizetaker.

59331. *PACOURIA CAPENSIS* (Oliver) S. Moore. Apocynaceae.

From Pretoria, Transvaal, South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received April 26, 1924.

A low, scrambling shrub which is common on the kopjes (hillocks) north of Pretoria, producing an abundance of white flowers in the spring and numerous large reddish yellow fruits in late summer. These fruits, known locally as "wild peaches" or "wild apricots," have an agreeable flavor and are used raw or as preserves. This shrub, allied to *Landolphia*, belongs to a family which includes rubber-yielding species, and has been secured for specialists who are seeking new sources of rubber.

59332. *SIDEROXYLON AUSTRALE* (R. Br.) Benth. and Hook. Sapotaceae.

From Brisbane, Queensland, Australia. Seeds purchased from C. T. White, Government botanist. Received April 26, 1924.

The rich milky sap of this Australian tree, which resembles cream in taste, is said to yield gutta-percha, and seeds have been secured for the use of department rubber specialists. The round, purplish fruits, about 2 inches in diameter, are edible, although of coarse texture and insipid flavor. The dark-colored, prettily veined timber is used in Australia for cabinetwork and carving.

For previous introduction, see S. P. I. No. 44072.

59333. *CHENOPodium QUINOA* Willd. Chenopodiaceae. Quinoa.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Collected for cultural tests.

59334 to 59339. *NICOTIANA TABACUM* L. Solanaceae. Tobacco.

From Montevideo, Uruguay. Seeds presented by R. Salgueiro Silveira, Sección de Economía Rural. Received April 28, 1924.

Introduced for testing by tobacco specialists.

59334. *Amarelo* or *Cheiroso*.59335. *Amarelo Rio Grande do Sul* No. 1.59336. *Bahia*.59337. *Espadin*.59338. *Fumo Bahiano* No. 4.59339. *Repollo*.

59340 and 59341. ALLIUM spp. Liliaceæ.

From Paris, France. Seeds presented by Prof. D. Bois, Museum of Natural History. Received April 26, 1924.

Introduced for horticulturists investigating the food possibilities of the genus *Allium*.

59340. ALLIUM OBLIQUUM L.

A species cultivated in Siberia as a substitute for garlic. It has a narrowly egg-shaped bulb and a stem up to 3 feet in height.

For previous introduction, see S. P. I. No. 58684.

59341. ALLIUM SUBHIRSUTUM L.

A white-flowered species from the warmer sections of the Mediterranean countries. It becomes about a foot high, with narrow, hairy margined leaves.

59342 to 59345. DIOSPYROS KAKI L. f. Diospyraceæ. Kaki.

From Okitsu, Japan. Scions presented by Prof. T. Onda, director, Government Horticultural Experiment Station. Received May 2, 1924. Notes by C. C. Thomas, Bureau of Plant Industry.

These are said to be unusually hardy varieties.

59342. A large oblate persimmon, equatorial diameter 3 inches, longitudinal diameter $1\frac{1}{2}$ inches, prominently quadrangular with four furrows extending upward from the blossom end. Flesh yellow, almost seedless; skin orange.

59343. An oblong conical persimmon, resembling Hachiya in shape, with a longitudinal diameter of about 3 inches and an equatorial diameter of $2\frac{1}{2}$ to 3 inches. Flesh and skin lemon yellow; seeds present.

59344. The fruit of this variety is oblate and noticeably quadrangular with four prominent furrows extending from the blossom end upward toward the angles. The equatorial diameters are about equal, 3 by 3 inches; the longitudinal diameter is $1\frac{1}{2}$ to 2 inches. Seeds are present. The flesh is yellow and the skin orange.

59345. A large, oblate persimmon somewhat angular. The equatorial diameter is 4 inches and the longitudinal 2 inches. The flesh is seedless and yellow; the skin is orange.

59346 to 59351. ALLIUM spp. Liliaceæ.

From Dorpat, Estonia. Seeds presented by the director, Botanical Garden, University of Dorpat. Received April 30, 1924.

A collection of *Alliums* secured for horticulturists investigating the food possibilities of the genus.

59346. ALLIUM ALBIDUM Fisch.

A species with clustered oblong bulbs, very narrow semiterete leaves, and white or yellowish white flowers. Native to southern Russia.

59347. ALLIUM ANGULOSUM L.

A rather variable species, distributed from eastern Europe through Siberia in dry rocky places. It is usually a low plant with narrow leaves and a hemispherical head of lilac-purple flowers.

For previous introduction, see S. P. I. No. 58675.

59348. ALLIUM LIBANI Boiss.

A species with very narrow, wavy leaves and a dense umbel of straw-colored flowers. It is about 4 inches in height and grows wild in the mountains of southern Palestine.

59349. ALLIUM LINEARE L.

A Siberian species with very narrow flat leaves and yellowish white flowers.

59346 to 59351—Continued.**59350. ALLIUM SACCULIFERUM Maxim.**

An erect, red-flowered species, 2 feet or more in height, with triangular, sharp-pointed leaves. Native to the southern Amur region, Siberia.

59351. ALLIUM VICTORIALIS L.

One of the most distinct species of European *Alliums*, with stems about a foot and a half high and leaves resembling those of the lily-of-the-valley. The white or greenish white flowers are produced in May.

For previous introduction, see S. P. I. No. 58691.

59352 to 59355.

From Cambridge, England. Seeds presented by the director of the Botanical Garden, University of Cambridge. Received April 26, 1924.

Introduced for the use of forage-crop specialists.

59352. ASTRAGALUS CHINENSIS L. f. Fabaceæ.

An erect, herbaceous plant, native to China, with smooth slender stems, elliptic-obtuse leaflets, and pendulous, few-flowered racemes.

59353. BRACHYPODIUM JAPONICUM Miquel. Poaceæ. Grass.

A tall coarse grass with rough leaves and large flower spikes about 6 inches long. Native to sandy places in Japan.

59354. PANICUM BULBOSUM H. B. K. Poaceæ. Grass.

A bulbous-rooted, cespitose Mexican grass with erect stems 3 or 4 feet in height and narrow long-pointed leaves.

59355. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.**59356. SPONDOGONA SALICIFOLIA (L.) House (Dipholis salicifolia A. DC.). Sapotaceæ.**

From San Manuel, Oriente, Cuba. Seeds presented by Dr. Mario Calvino, Estación Experimental y Escuela Agrícola. Received April 26, 1924.

Cuya, or *Jocuma blanca*. This is a beautiful, showy, evergreen, native tree; it is drought resistant, thrives in calcareous soils, and is a rapid grower. I consider it an excellent ornamental and shade tree for tropical regions. (Calvino.)

59357. VICIA MICHAUXII Spreng. Fabaceæ. Vetch.

From Ariana near Tunis, Tunisia, Africa. Seeds presented by F. Boeuf, chief, Botanical Service. Received April 30, 1924.

A creeping or climbing annual vetch, native to Syria, with very narrow leaflets, light-yellow flowers, and hairy pods about an inch long. Secured for department agronomists for trial as a green-manure and forage plant.

For previous introduction, see S. P. I. No. 55547.

59358 to 59360.

From Groningen, Netherlands. Seeds presented by the director, Botanical Gardens. Received April 26, 1924. Introduced for trial by forage-crop specialists.

59358. ARRHENATHERUM ERIANTHUM Boiss. and Reut. Poaceæ. Grass.

A tall, perennial grass, native to Spain, with flat leaf blades and dense erect panicles.

59359. CALAMAGROSTIS LANCEOLATA Roth. Poaceæ. Grass.

A perennial, moisture-loving grass, 2 to 4 feet high, with limp, very narrow leaves, drooping panicles, and creeping rhizomes with long stolons. Native to western Europe.

59358 to 59360—Continued.

59360. *CORONILLA GLAUCA* Jusl. Fabaceæ.

A small, yellow-flowered European shrub with handsome glaucous foliage.

59361 and 59362.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received April 26, 1924.

59361. *DANTHONIA SEMIANNULARIS* (Labill.) R. Br. Poaceæ.

A perennial tufted grass, producing a fair amount of soft succulent fodder suitable for either sheep or cattle. The leaves are narrow, usually hairy, and light green. The flower stems grow about 2 feet high and the seed, which sheds easily, is produced in clusters that have a white woolly appearance when ripe. *Wallaby grass* provides good pasturage during the spring and summer and remains green in the winter months.

For previous introduction, see S. P. I. No. 56566.

59362. *THEMEDA QUADRIVALVIS* (L.) Kuntze (*Anthistiria ciliata* L. f.). Poaceæ.

A coarse, rather tough annual grass which grows in tufts from 1 to 3 feet in height. It is closely related to the kangaroo grass of Australia and Tasmania. (C. V. Piper, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 50334.

59363 to 59371.

From Copenhagen, Denmark. Seeds presented by Dr. Axel Lange, director, Botanical Garden. Received April 30, 1924.

The following collection of plants, chiefly grasses, has been secured for forage-crop specialists.

59363. *AVENA MONTANA* Vill. Poaceæ. Grass.

A perennial, cespitose grass, native to alpine and subalpine sections of southern Europe, with laxly ascending stems and loosely folded leaves. The loose panicle is about 6 inches long.

59364. *AVENA PLANICULMIS* Schrad. Poaceæ. Grass.

A Siberian species with leaves about half an inch in width, found in dry, open situations.

59365. *CROTALARIA SEMPERFLORENS* Vent. Fabaceæ.

A shrubby species from the tropical section of India, with oblong green leaves about 4 inches long and bright-yellow flowers.

59366. *ELYMUS EUROPAEUS* L. Poaceæ. Lyme grass.

A loosely cespitose, perennial, European grass, with erect flowering stems and broadly linear leaves which taper to a long, slender point.

For previous introduction, see S. P. I. No. 53048.

59367. *MEDICAGO MARINA* L. Fabaceæ.

A perennial, very hairy, yellow-flowered species from the sandy coastal regions in Asia Minor. The stems are either prostrate or ascending.

59368. *MUHLENBERGIA MEXICANA* (L.) Trin. Poaceæ. Grass.

A good perennial fodder grass, native to Mexico, said to be particularly suited for low, humid lands. It has a creeping rootstock and a much-branched stem.

59369. *PISUM SATIVUM* L. Fabaceæ. Pea.

Introduced for varietal studies.

59370. *TRIFOLIUM MARITIMUM* Huds. Fabaceæ. Clover.

An annual, erect or decumbent, branching clover from Asia Minor, where it grows in fields and along the seacoasts. The flowers are white or pale flesh colored.

59363 to 59371—Continued.

59371. *VIGNA CYLINDRICA* (Stickm.) Skeels. Catjang. Fabaceæ.

The catjang is closely allied to the cowpea, and these seeds have been secured as of possible value in obtaining an improved strain of cowpea for cultivation in the United States.

59372 and 59373. *MAGNOLIA CAMPBELLII* Hook. f. and Thoms. Magnoliaceæ.

From Orleans, Loiret, France. Plants presented by Léon Chenault. Received May 14, 1924.

The enormous flowers of this magnolia, 10 to 14 inches across and varying in color from white to nearly purple, make it one of the finest ornamentals of the genus. It is a native of the Himalayas, where it ascends to an altitude of 8,000 feet. The tree becomes 80 feet in height and is deciduous, with very dark bark and large, elliptical, dark-green leaves. It is most likely to find congenial conditions in mild-wintered sections of the Southern States where there is abundant rainfall.

59372. A red-flowered form.

59373. A white-flowered form.

59374. *ERYTHRINA BOGOTENSIS* Hort. Fabaceæ.

From Havana, Cuba. Cuttings presented by F. E. Bethuser. Received May 10, 1924.

The erythrinæ are handsome leguminous trees or shrubs, rather generally distributed throughout the Tropics of both hemispheres. This species, in common with many of the rest, has terminal racemes of beautiful scarlet flowers and deserves a trial in southern Florida.

59375. *CICER ARIETINUM* L. Fabaceæ. Chick-pea.

From Los Mochis, Sinaloa, Mexico. Seeds presented by Albert H. Amis, Los Mochis Agricultural Experiment Station. Received May 2, 1924.

A small-seeded chick-pea introduced for testing by agronomists.

59376. *GARCINIA BINUCAO* (Blanco) Choisy. Clusiaceæ. Binukao.

From Manila, Philippine Islands. Seeds presented by the Director, Bureau of Agriculture. Received May 21, 1924.

For previous introduction and description, see S. P. I. No. 58958.

59377. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze. Musaceæ. Banana.

From Santa Marta, Colombia. Stumps presented by V. M. Cutter, United Fruit Co., Boston, Mass. Received May 6, 1924.

Gros Michel. More than nine-tenths of the bananas imported into the United States are of this variety. It is cultivated in the West Indies and in many places on the mainland of tropical America. Commercially it has been found the most satisfactory of all varieties, and now that our markets have become so accustomed to it, attempts to popularize other sorts have not been successful.

In quality, *Gros Michel* is surpassed by many other bananas. It has another defect also—susceptibility to the Panama disease, *Fusarium cubense*, which has played havoc in the banana plantations of several countries. In spite of these handicaps, it still reigns supreme.

During the last few years, considerable attention has been devoted to banana culture in Florida. The Cavendish or Chinese variety has been planted commercially in a few sections, and good returns have been reported. Several other varieties also

have been cultivated for many years, but a recent canvass of the State failed to bring to light a single plant of Gros Michel. In view of the prominence which this variety attained in the banana trade years ago, it seems nothing short of astonishing that it should not have become established in Florida.

Florida growers, therefore, requested the department to introduce this variety for trial in their State. Because of the danger of bringing with it the Panama disease, strict precautions must be taken. The plants which Mr. Cutter has presented, in response to our request, were sent from Santa Marta, Colombia, a region where the disease has never been found. Before they are planted in Florida they will be held in quarantine at Washington until all danger of their carrying the disease with them is past. (*Wilson Popenoe.*)

59378 to 59382.

From Echo, Kirin Province, Manchuria. Seeds presented by A. D. Woeikoff, director, Experimental Farm. Received April 28, 1924.

59378 and 59379. Two bush clovers secured for forage-crop specialists.

59378. *LESPEDEZA JUNCEA SERICEA* (Miquel) Forbes and Hemsl. Fabaceæ.

A Japanese bush clover which develops into a shrubby plant about 3 feet in height, with dense foliage and white flowers.

For previous introduction, see S. P. I. No. 56526.

59379. *LESPEDEZA STIPULACEA* Maxim. Fabaceæ.

This Korean bush clover appears to be especially promising in that portion of the eastern United States included between latitudes corresponding to those of northern Ohio and southern Virginia.

For previous introduction, see S. P. I. No. 49027.

59380 and 59381. *LILIUM CONCOLOR* Salisb. Liliaceæ. **Lily.**

A very attractive little Japanese lily, 1 to 3 feet in height, which produces three to six bright-scarlet flowers; these are erect, star shaped, and spotted with black. This species succeeds best in a half-shady place.

59380. Collected in 1922.

59381. Collected in 1923.

59382. *VICIA JAPONICA* A. Gray. Fabaceæ. **Vetch.**

This has proved to be one of the most promising of the perennial vetches introduced into the United States. Obtained for cultural comparison tests.

59383. *AVENA STERILIS* L. Poaceæ. **Oats.**

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Collected for cereal-breeding experiments.

59384 and 59385. *PHASEOLUS* spp. Fabaceæ.

From Italian Somaliland. Seeds presented by Dr. G. Scasellati Sforzolini, Director of Agriculture and Zootechnics. Received May 6, 1924. Notes by Doctor Sforzolini.

Introduced for horticulturists experimenting with varieties of beans.

59384. *PHASEOLUS AUREUS* Roxb. **Mung bean.**

Grows subspontaneously in the village of Duca Abruzzi.

59384 and 59385—Continued.

59385. *PHASEOLUS RADIATUS* L.

A black-seeded variety from the central Scebeli region.

59386 to 59397.

From Cambridge, England. Seeds presented by the director, Botanical Garden, University of Cambridge. Received May 3, 1924.

59386 to 59389. *ALLIUM* spp. Liliaceæ.

Introduced for horticulturists studying the food possibilities of the genus *Allium*.

59386. *ALLIUM ODORUM* L.

In Japan this onion is cultivated for its leaves, which are eaten as greens; in the spring the leaves are borne luxuriantly by the old bulbs, becoming about a foot in length. (Adapted from *Useful Plants of Japan*, Agricultural Society of Tokyo, p. 17.)

For previous introduction, see S. P. I. No. 55442.

59387. *ALLIUM SCORODOPRASUM* L.

The sand-leek, or rocambole of Europe and Asia Minor, resembles garlic, but has smaller bulbs of milder flavor which are produced at the tip of the stem as well as at its base.

59388. *ALLIUM SCORODOPRASUM BABINGTONII* (Borrer) Richter.

This is a much larger plant than the typical species, the scape being 4 to 6 feet high, and the more numerous leaves are broader, sometimes 2 inches wide at the base. The flowers are pale reddish purple. The bulbous base of the plant is globose, with solid white bulbs attached to the hard white crown of the root. Native to England and probably to Ireland.

59389. *ALLIUM STELLERIANUM* Willd.

A perennial Siberian species which does not form a true bulb. It is characterized by semi-cylindrical leaves and dense flower heads.

59390. *BENINCASA HISPIDA* (Thunb.) Cogn. Cucurbitaceæ. **Wax gourd.**

Obtained for horticulturists experimenting with cucurbitaceous vegetables.

59391. *ILEX LATIFOLIA* Thunb. Aquifoliaceæ.

A Japanese holly, one of the most attractive of the genus, which sometimes develops into a tree 60 feet tall. The glossy green leaves, 3 to 7 inches long, are oval or narrowly oblong, and the red berries, about one-third of an inch in diameter, are produced in dense clusters.

59392. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ.

Var. *racemigerum*. A South American form with currantlike fruits; secured for horticulturists engaged in tomato-breeding experiments.

59393. *PICEA* sp. Pinaceæ. **Spruce.**

Received as *P. purgans*, for which a place of publication has not been found.

59394 to 59396. *PISUM* spp. Fabaceæ.

Obtained for testing by horticulturists experimenting with pea varieties.

59394. *PISUM SATIVUM* L. **Pea.**

59395. *PISUM SATIVUM* L. **Pea.**

59396. *PISUM SATIVUM UMBELLATUM* L. **Pea.**

A variety of garden pea with umbellate flowers.

59397. *THLADIANTHA DUBIA* Bunge. Cucurbitaceæ.

A tall climbing herbaceous vine with light-green oval leaves and yellow, bell-shaped flowers. The oblong, succulent fruit, about 3 inches long, is eaten by the natives of northeastern India.

59398 to 59401.

From Edinburgh, Scotland. Presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received May 14, 1924. Introduced for horticulturists experimenting with small fruits.

59398 to 59401. Cuttings.

59398. *RIBES BETHMONTII* Jancz. Grossulariaceae.

A hybrid between *Ribes malvaceum* and probably *R. sanguineum*. It is an upright shrub, about 7 feet in height, with 3-lobed, deep-green leaves, light-pink flowers, and red-dish fruits.

59399. *RUBUS BIFLORUS QUINQUEFLORUS* Focke. Rosaceae.

Because of the waxy bloom which covers the long spiny stems this is a very striking shrub. The large pinnate leaves, a foot or more in length, are white beneath, and the large white flowers are produced in terminal and axillary clusters. The edible, golden-yellow fruits of this western Chinese species are about the size of the common raspberry.

59400. *RUBUS CRATAEGIFOLIUS MORIFOLIUS* (Sieb.) Focke. Rosaceae.

A stout, erect or spreading wild raspberry, native to Japan. Because of its numerous, strong prickles and small, orange-red fruits it is of value chiefly to plant breeders.

59401. *VIBURNUM HUPEHENSE* Rehder. Caprifoliaceae.

A fairly hardy, deciduous shrubby species, allied to *Viburnum wrightii*, with coarsely toothed, long-pointed dark-green leaves and ovoid, dark-red fruits. Native to central China.

59402. *CHENOPodium QUINOA* Willd.
Chenopodiaceae. Quinoa.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Obtained from Hector Cusicanqui, of La Paz, Bolivia; crop of 1924. Said to be the best variety grown at La Paz. (*Richey and Emerson*.)

59403 to 59642.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29 and 30. Quoted notes by Mr. Rock.

59403. *ACONITUM FORRESTII* Stapf. Ranunculaceae.

No. 11446. November, 1923. A plant 3 to 4 feet high collected in alpine meadows at the foot of limestone rocks at an altitude of 11,000 feet, Likiang Snow Range. The leaves are pubescent and dark green, and the spikes, 2 feet or more long, are covered the entire length with the pale-blue to purple flowers.

59404. *ALIUM* sp. Liliaceae.

No. 11467. November, 1923. A plant 1 to 2 feet high from alpine meadows of the Likiang Snow Range, at an altitude of 14,000 feet. The rich-blue flowers are produced in drooping globose umbels.

59405. *ASTER STATICEFOLIUS* Franch. Asteraceae.

No. 11423. November, 1923. A shrub 2 to 3 feet high found among rocks (limestone crevices), Likiang Snow Range, at an altitude of 11,000 feet. The leaves are spatulate, the flowers large, and the ray flowers deep blue-purple.

59403 to 59642—Continued.

59406. *ASTER* sp. Asteraceae.

No. 11426. November, 1923. A plant 2 feet high from alpine meadows, Likiang Snow Range, at an altitude of 12,000 to 13,000 feet. The leaves are lanceolate, the flower heads large, 2 inches in diameter, and the ray flowers long and deep blue-purple.

59407. *COTONEASTER* sp. Malaceae.

No. 11220. Champutong, Salwin Valley. October, 1923. A very ornamental shrub 6 inches high found at an altitude of 9,000 feet, with small, orbicular leaves and small red fruits.

59408. *PYRACANTHA ANGUSTIFOLIA* (Franch.) C. Schneid. Malaceae.

No. 11482. November, 1923. A much-branched, spiny shrub 4 to 5 feet high found in dry stream beds and meadows around the Likiang Snow Range, at an altitude of 9,000 feet. The leaves are small and linear, and the fruits are a rich orange-red.

59409. *CREMANTHODIUM* sp. Asteraceae.

No. 11456. Sungkwe, November, 1923. Found in the alpine meadows, at an altitude of 11,000 feet. The large, oval leaves of this plant form a basal rosette, and the drooping flower heads have deep-yellow ray flowers.

59410. *DELPHINIUM* sp. Ranunculaceae.

No. 11245. Mount Lanchun. October, 1923. A plant 3 to 4 feet high found in alpine meadows at an altitude of 12,000 feet, with large, deeply divided leaves and deep-blue flowers on long spikes.

59411. *DELPHINIUM* sp. Ranunculaceae.

No. 11413. November, 1923. A plant 2 feet or more high found at the head of a limestone gorge at Sabaloko, Likiang Snow Range. The deep-green leaves form globose rosettes, and the flowers, in ample spikes, are rich deep blue.

59412. *DELPHINIUM* sp. Ranunculaceae.

No. 11483. November, 1923. A plant 2 to 3 feet high growing in the wet meadows of Heshwe, Likiang Snow Range, at an altitude of 10,000 feet. The leaves are palmatisect and basal, and the dark blue-purple flowers are produced in long spikes.

59413. *DELPHINIUM* sp. Ranunculaceae.

No. 11485. Ngulukeu. November, 1923. A plant 1 to 2 feet high found in meadows among rocks at an altitude of 9,000 feet. The leaves are finely palmatisect, and the rich steel-blue flowers are in large racemes.

59414. *ENKIANTHUS* sp. Ericaceae.

No. 10949 (fruit), 8907 (flowers). November, 1923. A very handsome species 8 to 15 feet high found in the forests of Landjoela, southeastern Tibet, at an altitude of 9,000 feet. The evenly green leaves are oval, and the campanulate flowers are yellow with red stripes and arranged in large clusters.

59415. *EUPTELEA PLEIOSPERMA* Hook. f. and Thoms. Trochodendraceae.

No. 11224. October, 1923. A tree 30 to 40 feet high found along meadows of Champutong, Salwin Valley, at an altitude of 7,000 feet. The oval, crenate, caudately acuminate leaves are pale beneath, and the flowers are red.

59416. *GENTIANA* sp. Gentianaceae.

No. 11437. November, 1923. A branching plant 1 foot high found in alpine meadows at Ladsakodjo, Likiang Snow Range, at an altitude of 12,500 feet. The large, tubular flowers are indigo blue and have salver-shaped corollas.

59403 to 59642—Continued.

59417. *GENTIANA* sp. Gentianaceæ.

No. 11484. Saba. November, 1923. A branching corymbose plant 1 foot high found in moist meadows near Likiang at an altitude of 11,000 feet. The deep-blue flowers, 2 to 3 inches long, have salver-shaped corollas.

59418. *INCARVILLEA LUTEA* Bur. and Franch. Bignoniaceæ.

No. 11412. Likiang Snow Range. November, 1923. A bush 2 to 3 feet high found among limestone rock in scrub forests at an altitude of 9,600 to 11,000 feet. The large leaves are pinnatisect, and the large, yellow flowers are produced in long, terminal spikes.

59419. *INDIGOFERA PENDULA* Franch. Fabaceæ.

No. 11441. November, 1923. An exceedingly ornamental shrub 10 to 15 feet high collected on the Likiang Snow Range at an altitude of 10,000 feet. The handsome flowers are in large pendulous racemes.

For previous introduction, see S. P. I. No. 56315.

59420. *LILIUM* sp. Liliaceæ.

No. 10190. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A plant 1 or 2 feet high found in alpine meadows. The leaves are elliptical, and the flowers are yellow to white.

59421. *MAGNOLIA* sp. Magnoliaceæ.

No. 11231. October, 1923. A tree 8 to 10 feet high growing on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 10,000 feet. The oval leaves are thinly rufous pubescent beneath, and the flowers are large and white.

59422. *MALUS YUNNANENSIS* (Franch.) C. Schneid. (*Pyrus yunnanensis* Franch.). Malaceæ. Apple.

No. 11489. November, 1923. A tree 30 to 40 feet high found in the Lashipa Forest near Sembi, west of Likiang, at an altitude of 9,000 to 10,000 feet. The large, oval, rich-green leaves are greenish pubescent beneath, and the red fruits are 1 inch in diameter.

59423. *MALUS* sp. Malaceæ.

No. 11356. December, 1923. A shrub or tree 30 feet high found in the forests on the eastern slope of Karila, at an altitude of 12,000 feet. The lianallike branches are long and rambling, and the fruits are red and obovate.

59424. *MEIBOMIA* sp. (*Desmodium* sp.). Fabaceæ.

No. 11440. November, 1923. A shrub 8 to 10 feet high found along streams on the Likiang Snow Range, at an altitude of 9,000 to 10,000 feet. The rich-pink flowers, produced in large racemes, make this a very handsome shrub.

59425. *PAEONIA LUTEA* Delavay. Ranunculaceæ.

No. 11488. November, 1923. A shrub 1 to 2 feet high found on the dry slopes of Mount Lautchun, west of Likiang, at an altitude of 8,000 feet. The large leaves are white beneath, and the flowers are large and yellow.

59426. *PHILADELPHUS* sp. Hydrangeaceæ.

No. 11416. Likiang Snow Range. November, 1923. A very handsome species 8 to 10 feet high found on the outskirts of forests at an altitude of 10,000 to 11,500 feet. The large white flowers, produced in large racemes, are fragrant.

59427. *PINUS SINENSIS YUNNANENSIS* (Franch.) Shaw. Pinaceæ. Pine.

No. 11699. December, 1923. One of the most common trees in Yunnan, varying in height from 30 to 80 feet and with a very straight or crooked trunk, depending on the location and exposure. On the Likiang Snow Range, where these seeds were collected, this pine is associated with *Quercus*

59403 to 59642—Continued.

delavayi, *Q. semecarpifolia*, and *Rhododendron fortunei*. It prefers well-drained soils. It grows at altitudes ranging from 9,000 to 11,000 feet, with only scattered individual trees at the higher levels. In the more moist region its place is taken by *Pinus armandi* and in the higher altitudes by *Picea* and *Tsuga*.

59428 to 59434. *PRIMULA* spp. Primulaceæ.

Primrose.

59428. *PRIMULA LITTONIANA* Forrest.

No. 9859. September, 1923. A very handsome plant 2 to 3 feet tall growing in swampy meadows west of the Likiang Snow Range at Ganhaizte and also east of Lahgwubo, at an altitude of 10,000 to 11,000 feet. The deep indigo-blue flowers are borne in long, densely packed spikes and the calyxes, a rich carmine, are very striking.

59429. *PRIMULA SECUNDIFLORA* Franch.

No. 11425. Likiang Snow Range. November, 1923. Collected at an altitude of 13,000 feet.

For previous introduction and description, see S. P. I. No. 58375.

59430. *PRIMULA* sp.

No. 10182. October, 1923. A plant several inches high found in the alpine meadows of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The leaves are green and elliptical, and the flowers are a rich deep purple.

59431. *PRIMULA VALENTINIANA* Hand.-Mzt.

No. 11171. October, 1923. A plant 4 to 5 inches high found growing in the alpine meadows of Champutong, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The leaves are small, and the flowers are large and blue.

59432. *PRIMULA AGLENIANA* Balf. f. and Forrest.

No. 11197. October, 1923. Found growing in the alpine meadows of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The leaves are lanceolate and crenate, and the flowers are large and white with a pinkish tinge, drooping in large umbels.

59433. *PRIMULA INGENS* W. W. Smith and Forrest.

No. 11332. November, 1923. Collected in the alpine meadows of Mount Peima, at an altitude of 14,000 feet. The leaves are linear-lanceolate and glabrous, and the flowers are pale blue.

59434. *PRIMULA POISSONI* Franch.

No. 11487. November, 1923. From 3 to 4 feet high found in moist meadows near Labako, west of Likiang, at altitudes of 8,000 to 9,000 feet. The leaves are basal, linear-lanceolate, and the flowers are produced in long spikes (candelabra).

59435. *RHODODENDRON ARALIAEFORME* Balf. f. and Forrest. Ericaceæ.

No. 11404. November, 1923. Collected in pine forests of the Likiang Snow Range between 9,000 and 10,000 feet altitude. The large, fragrant flowers are white, pink, or purplish, but usually pink. This species is found all over Yunnan.

59436 to 59638. *RHODODENDRON* spp. Ericaceæ.59436. *RHODODENDRON* sp.

Nos. 1372 (fruit), 8500 (flowers). November, 1923. A shrub 4 feet high growing on alpine slopes among limestone rocks on the Likiang Snow Range at altitudes of 13,000 to 14,000 feet. The pale, thin leaves are obovate oblong and covered beneath with yellow tomentum. The flowers are rich pink.

59403 to 59642—Continued.

59437. RHODODENDRON sp.

Nos. 10898 (fruit), 10274 (flowers). November, 1923. A shrub 3 feet high found growing in moist regions on the alpine slopes of Londjre between 12,000 and 13,000 feet altitude. The leaves are elliptical, glabrous, and evenly green, and the flowers are a rich purplish red.

59438. RHODODENDRON sp.

Nos. 10918 (fruit), 9129 (flowers). November, 1923. A shrub 3 feet high found in the alpine region of Tsehchung at an altitude of 11,000 feet. The elliptical-obovate leaves are green above and covered beneath with deep, chocolate-colored tomentum. The flowers are dark crimson.

59439. RHODODENDRON sp.

Nos. 10920 (fruit), 9104 (flowers). November, 1923. A shrub 6 feet high found in the alpine region of Tsehchung. The narrow leathery linear leaves, 5 inches long, have revolute margins and are covered beneath with rufous wool. The flowers are white.

59440. RHODODENDRON sp.

Nos. 10921 (fruit), 9107 (flowers). November, 1923. A tree 13 to 14 feet high found in fir forests in the alpine region of Tsehchung at an altitude of 11,000 feet. The large, oblong leaves are dark green above and covered with a deep-brown wool beneath. The flowers are large and white and are on long pubescent pedicels.

59441. RHODODENDRON sp.

Nos. 10922 (fruit), 9287 (flowers). November, 1923. A shrub 1 to 2 feet high found growing in masses in the alpine region of Tsehchung. The oval-elliptical leaves are silvery white beneath, and the flowers are large and orange to red.

59442. RHODODENDRON sp.

Nos. 10923 (fruit), 9101 (flowers). November, 1923. A shrub 7 feet high from the alpine region of Tsehchung at an altitude of 11,000 feet. The elliptic-oblong, acute leaves are dark green above and a deep red to golden yellow beneath. The flowers are large and a rich pink.

59443. RHODODENDRON sp.

Nos. 10924 (fruit), 9124 (flowers). November, 1923. A shrub 1 to 2 feet high found growing in the rocky alpine meadows of Tsehchung at an altitude of 12,000 feet. The small, ovate leaves are yellow to red-brown beneath, and the small, deep rose-pink flowers are produced in clusters.

59444. RHODODENDRON sp.

Nos. 10928 (fruit), 10064 (flowers). November, 1923. A shrub 1 to 2 feet high growing in masses in the moist alpine region of Tsehchung at an altitude of 12,000 feet. The leaves are elliptic and white beneath, and the flowers are medium and bright red.

59445. RHODODENDRON sp.

Nos. 10929 (fruit), 9098 (flowers). November, 1923. A shrub 6 feet high from the slopes of the Tsehchung Mountains at an altitude of 10,000 feet. The evenly green leaves are obovate and glabrous, and the large, pink flowers are borne on slender pedicels.

59446. RHODODENDRON sp.

Nos. 10930 (fruit), 8835 (flowers). November, 1923. A shrub 3 to 4 feet high growing in fir forests on the alpine slopes of Tsehchung. The oval leaves are glabrous on both sides, and the flowers are a handsome pink.

59403 to 59642—Continued.

59447. RHODODENDRON FULVIDES Balf. f. and Forrest.

Nos. 10931 (fruit), 8883 (flowers). November, 1923. A tree 15 to 16 feet high found along streams on the Londjre Mountains, southeastern Tibet, at an altitude of 11,000 feet. The large, oblong, acute leaves are brown tomentose beneath, and the flowers are rose-pink.

59448. RHODODENDRON sp.

Nos. 10932 (fruit), 10301 (flowers). November, 1923. A shrub 4 feet high found growing in the alpine region of Londjre, southeastern Tibet. The ovate-elliptical leaves are dark green above and fawn-colored beneath, and the large, crimson flowers are borne on short pedicels.

59449. RHODODENDRON sp.

Nos. 10933 (fruit), 10292 (flowers). November, 1923. A shrub or small tree 7 feet high found in fir forests of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The large, oblong, acute leaves are brown tomentose beneath, and the flowers are large and white and are borne on slender pedicels.

59450. RHODODENDRON sp.

Nos. 10934 (fruit), 10307 (flowers). November, 1923. A shrub 2 feet high, growing in masses on open slopes in the alpine region of Londjre, southeastern Tibet, at altitudes between 12,000 and 13,000 feet. The linear-elliptical leaves are white to drab beneath, and the flowers are a yellowish red.

59451. RHODODENDRON sp.

Nos. 10936 (fruit), 8888 (flowers). November, 1923. A shrub 3 to 4 feet high found in the forests of Londjre, southeastern Tibet, at altitudes between 10,000 and 11,000 feet. The large leaves are oblong, acuminate, and brown beneath. The flowers are rose-pink.

59452. RHODODENDRON sp.

Nos. 10937 (fruit), 8887 (flowers). November, 1923. A very handsome species 6 to 8 feet high growing on the slopes of the Londjre Mountains, southeastern Tibet. The elliptical, deep-green leaves are glabrous on both sides, and the very large, fragrant flowers, in large umbels are a rich blue-lavender.

59453. RHODODENDRON sp.

Nos. 10938 (fruit), 8909 (flowers). November, 1923. A shrub 2 to 3 feet high found growing in masses on the alpine slopes of Londjre, southeastern Tibet. The leaves are elliptical and drab beneath, and the flowers are a very dark red.

59454. RHODODENDRON sp.

Nos. 10939 (fruit), 8884 (flowers). November, 1923. A shrub 3 to 4 feet high found in the alpine forests of Londjre, southeastern Tibet. The oblong-ovate leaves are golden yellow and glabrous beneath; the flowers are large and a deep purplish red.

59455. RHODODENDRON sp.

Nos. 10940 (fruit), 8910 (flowers). November, 1923. A shrub 2 to 3 feet high growing in the alpine region of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The elliptical leaves are white beneath; the flowers are yellow at the base, and the lobes are red.

59456. RHODODENDRON sp.

Nos. 10947 (fruit), 10313 (flowers). November, 1923. A handsome species 3 feet high growing in masses in the alpine region of Londjre, southeastern Tibet. The leaves are oblong linear and drab beneath; the flowers are large and a deep carmine.

59403 to 59642—Continued.

59457. RHODODENDRON sp.

Nos. 10948 (fruit), 10300 (flowers). November, 1923. A shrub 3 feet high found in the alpine region of Londjre, southeastern Tibet. The oblong leaves have brown wool beneath, and the carmine-purple flowers are produced in large clusters.

59458. RHODODENDRON sp.

Nos. 10950 (fruit), 10267 (flowers). November, 1923. A shrub 2 feet high growing on the alpine slopes of Londjre, southeastern Tibet. The small, oval, green leaves are mealy beneath, and the medium-sized flowers are rich pink.

59459. RHODODENDRON sp.

Nos. 10951 (fruit), 10304 (flowers). November, 1923. A shrub 2 feet high growing in the open moist region on the alpine slopes of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The leaves are oval, small, and glabrous, and the flowers are pale yellow.

59460. RHODODENDRON sp.

Nos. 10952 (fruit), 8881 (flowers). November, 1923. A fine species 2 to 3 feet high growing in masses on the alpine slopes of Londjre, southeastern Tibet, at an altitude of 12,000 feet. The elliptical, glabrous leaves are green on both sides, and the flowers are large and a rich carmine.

59461. RHODODENDRON sp.

Nos. 10965 (fruit), 9155 (flowers). November, 1923. A shrub 4 feet high found on rocky alpine slopes of the Tsehchung Mountains, Mekong Valley. The elliptical, glabrous leaves are pale beneath, and the flowers are pink.

59462. RHODODENDRON sp.

Nos. 10966 (fruit), 10061 (flowers). November, 1923. A tree 15 to 18 feet high growing in alpine forests on the Tsehchung Mountains at an altitude of 13,000 feet. The very large, obovate-oblong leaves are glossy glabrous and silvery beneath. The large flowers are a purplish red.

59463. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10967 (fruit), 8784 (flowers). November, 1923. A shrub 5 to 6 feet high growing in alpine regions on the Tsehchung Mountains, Mekong Valley, at an altitude of 12,000 feet. The coriaceous leaves are wrinkled above and covered beneath with ochre-yellow meal. The flowers are white with a pinkish tinge.

59464. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10968 (fruit), 9112 (flowers). November, 1923. A tree 8 to 10 feet high found on the slopes of the Tsehchung Mountains, Mekong Valley, at an altitude of 10,000 feet. The oblong leaves are dark green above and brown beneath with prominent ribs. The flowers are pinkish white.

59465. RHODODENDRON sp.

Nos. 10969 (fruit), 9150 (flowers). November, 1923. A rare plant 3 feet high, found in the alpine region of Tsehchung, Mekong Valley, at an altitude of 13,000 feet. The leaves are small and elliptical, and the flowers are deep yellow.

59466. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10970 (fruit), 9111 (flowers). November, 1923. A shrub 5 feet high growing on the slopes of the Tsehchung Mountains, Mekong Valley, at an altitude of 10,000 feet. The oblong-acute, articulate leaves are covered beneath with brown wool. The flowers are white with a tinge of pink.

59403 to 59642—Continued.

59467. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10971 (fruit), 8780 (flowers). November, 1923. A shrub or small tree 8 feet high growing in the alpine region of Tsehchung, Mekong Valley, at an altitude of 12,000 feet. The elliptical-oblong, acute leaves are brown woolly beneath, and the flowers are pinkish purple.

59468. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10972 (fruit), 8779 (flowers). November, 1923. A tree 8 to 10 feet high found at the foot of the Tsehchung Mountains, Mekong Valley, at an altitude of about 8,000 feet. The oblong-lanceolate, acuminate leaves are covered with a brown meal beneath, and the large flowers are white with a pinkish tinge.

59469. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10973 (fruit), 8770 (flowers). November, 1923. A shrub 5 to 6 feet high growing in fir forests in the alpine region of the Tsehchung Mountains, Mekong Valley, at an altitude of 12,500 feet. The oblong, acuminate leaves are dark green above and brownish yellow beneath. The flowers are large and white.

59470. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10974 (fruit), 8772 (flowers). November, 1923. A shrub 5 to 6 feet high found in the alpine region of Tsehchung, Mekong Valley, at an altitude of 12,000 feet. The elliptical-ovate, acute, reticulate leaves are leathery and covered beneath with a brown tomentum. The flowers are purple with a pinkish tinge.

59471. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10975 (fruit), 8767 (flowers). November, 1923. A shrub 8 to 10 feet high found in the alpine region of Tsehchung, Mekong Valley. The oblong-acute leaves are dark green above and yellow beneath. The flowers are white with a pinkish purple tinge.

59472. RHODODENDRON IXEUTICUM Balf. f. and Smith.

Nos. 10976 (fruit), 9113 (flowers). October, 1923. A shrub 5 feet high found growing in the alpine region of Tsehchung, Mekong Valley, at an altitude of 11,000 feet. The leaves are coriaceous, reticulate, and pale yellow beneath. The flowers are white.

59473. RHODODENDRON REPENS Balf. f. and Forrest.

Nos. 10993 (fruit), 8788 (flowers). October, 1923. A very handsome, spreading, prostrate plant 1 foot high growing in the alpine meadows of Tsehchung at an altitude of 14,000 feet. The obovate leaves are small and glabrous, and the flowers are large and bright scarlet.

59474. RHODODENDRON sp.

Nos. 10996 (fruit), 91321 (flowers). October, 1923. A shrub 4 feet high found in the alpine region of Tsehchung, Mekong Valley. The linear-elliptical leaves are rich green covered beneath with brown, deciduous wool. The flowers are red with a purplish tinge.

59475. RHODODENDRON sp.

Nos. 10998 (fruit), 9134 (flowers). October, 1923. A shrub 4 feet high growing in the rocky alpine region of Tsehchung at an altitude of 13,000 feet. The thick, linear, rich-green leaves, with revolute margins, have a deep-red wool beneath. The flowers are pink.

59403 to 59642—Continued.

59476. RHODODENDRON sp.

Nos. 11000 (fruit), 9114 (flowers). October, 1923. A shrub 6 feet high found on the slopes of the Tsehchung Mountains at an altitude of 10,000 feet. The leaves are oval and glabrous, and the flowers are shaded from lavender to a bluish purple.

59477. RHODODENDRON sp.

Nos. 11004 (fruit), 9109 (flowers). October, 1923. A handsome species 14 to 15 feet high growing in the alpine forests of Tsehchung at an altitude of 11,000 feet. The linear-oblong, acute leaves are brown beneath, and the very large, rich-peach flowers are produced in large umbels.

59478. RHODODENDRON COSMETUM Balf. f. and Forrest.

Nos. 11005 (fruit), 8822 (flowers). October, 1923. A very attractive species 1 to 3 feet high growing in the alpine region of Tsehchung at an altitude of 13,000 feet. The leaves, with ciliate margins, are small, oval, and green. The flowers are large and shaded from deep, rich purple to lavender. The calyxes are carmine.

59479. RHODODENDRON sp.

Nos. 11006 (fruit), 9116 (flowers). October, 1923. A shrub 1 to 2 feet high found in the alpine region of Tsehchung at an altitude of 13,000 feet. The oval, rich-green leaves are bluish beneath, and the flowers are a rich yellow.

59480. RHODODENDRON SEMNUM Balf. f. and Forrest.

Nos. 11007 (fruit), 9097 (flowers). October, 1923. A very handsome tree 15 to 18 feet high growing on the alpine slopes of Tsehchung. The very large, glossy, obovate-oblong leaves are silvery gray beneath, and the flowers are shaded from white to pink.

59481. RHODODENDRON sp.

Nos. 11008 (fruit), 8830 (flowers). October, 1923. A shrub or small tree 8 to 10 feet high found in the alpine region of Tsehchung at an altitude of 13,000 feet. The leaves, large and obovate-oblong, are subsessile and silver colored beneath. The purple flowers, tinged with pink, are produced in large umbels.

59482. RHODODENDRON SALUENENSE Franch.

Nos. 11010 (fruit), 9151 (flowers). October, 1923. A shrub 2 to 3 feet high found in the rocky alpine region of Tsehchung at an altitude of 13,000 feet. The oval, dark-green leaves are pale brown beneath; the flowers are a rich purple and the calyx green.

59483. RHODODENDRON sp.

Nos. 11011 (fruit), 9092 (flowers). October, 1923. A shrub 1½ feet high found growing in masses in the alpine region of Tsehchung at an altitude of 13,000 feet. The elliptical leaves are drab colored beneath, and the flowers are rich red.

59484. RHODODENDRON SALUENENSE Franch.

Nos. 11012 (fruit), 9282 (flowers). October, 1923. A shrub 1 to 2 feet high growing on the alpine slopes of Tsehchung at an altitude of 13,000 feet. The oval leaves are green above and paler beneath, and the petioles are covered with brown hairs. The flowers are large, salver shaped, and deep purplish blue, with large, carmine calyxes.

59485. RHODODENDRON sp.

Nos. 11019 (fruit), 9141 (flowers). October, 1923. A shrub 1 to 2 feet high found on rocky alpine slopes of the Tsehchung Mountains at an altitude of 13,000 feet. The leaves are small, oval, and dark brown beneath; the handsome, delicate-pink flowers are tubular.

59403 to 59642—Continued.

59486. RHODODENDRON sp.

Nos. 11020 (fruit), 9142 (flowers). October, 1923. A shrub 5 feet high growing in the alpine region of Tsehchung at an altitude of 13,000 feet. The linear-lanceolate leaves are rufous red and woolly beneath. The white flowers are spotted with dark purple.

59487. RHODODENDRON sp.

Nos. 11022 (fruit), 9211 (flowers). October, 1923. A striking species 2 feet high growing in the alpine region of the Sila Pass, Mekong-Salwin Divide, at an altitude of 14,000 feet. The oval leaves are chalky white beneath, and the very large flowers are deep crimson.

59488. RHODODENDRON sp.

Nos. 11025 (fruit), 8739 (flowers). October, 1923. A shrub 4 to 5 feet high found in the Sila Pass, Mekong-Salwin Divide, at an altitude of 13,000 feet. The green, obovate leaves are golden yellow beneath, and the rich golden-yellow flowers are very large.

59489. RHODODENDRON FORRESTII Balf. f.

Nos. 11033 (fruit), 9234 (flowers). October, 1923. A prostrate plant, a few inches high, growing in the Sila Pass at an altitude of 13,000 feet. The small, oval, glabrous leaves are dark green above and deep purple beneath. The large flowers are rich carmine.

59490. RHODODENDRON sp.

Nos. 11035 (fruit), 8750 (flowers). October, 1923. A shrub 3 to 4 feet high found in the Sila Pass at an altitude of 12,000 feet. The obovate leaves are golden yellow to pale green beneath, and the very large, showy, yellow flowers have red lobes.

59491. RHODODENDRON sp.

Nos. 11036 (fruit), 9228 (flowers). October, 1923. A shrub 1 to 2 feet high found in the Sila Pass at an altitude of 12,000 feet. The oval leaves, prominently ribbed, are green on both sides, and the flowers are a deep purplish red.

59492. RHODODENDRON sp.

Nos. 11037 (fruit), 8751 (flowers). October, 1923. A shrub 3 to 4 feet high found in the Sila Pass at an altitude of 13,000 feet. The leaves are oblong, glabrous on both sides, and pale beneath; the flowers are pink and very large.

59493. RHODODENDRON sp.

Nos. 11039 (fruit), 9215 (flowers). October, 1923. A shrub 2 feet high found in the Sila Pass at an altitude of 13,000 feet. The small, elliptical leaves are drab colored beneath, and the broadly campanulate flowers are deep carmine.

59494. RHODODENDRON sp.

Nos. 11040 (fruit), 9201 (flowers). October, 1923. A shrub 5 feet high growing in the Sila Pass at an altitude of 12,000 feet. The obovate leaves are golden yellow beneath, and the large flowers are pinkish purple.

59495. RHODODENDRON FULVIDES Balf. f. and Forrest.

Nos. 11044 (fruit), 9222 (flowers). October, 1923. A tree 15 feet high found on the slopes of the Sila Pass at an altitude of 11,000 feet. The oblong, acute leaves are brown tomentose beneath, and the flowers are small and pink.

59496. RHODODENDRON sp.

Nos. 11046 (fruit), 9221 (flowers). October, 1923. A shrub 2 to 3 feet high growing in masses in the Sila Pass at an altitude of 13,000 feet. The linear-elliptical leaves are drab-gray beneath, and the flowers are a very rich carmine.

59403 to 59642—Continued.

59497. *RHODODENDRON FULVIDES* Balf. f. and Forrest.

Nos. 11048 (fruit), 8760 (flowers). October, 1923. A shrub 5 to 6 feet high found in the Sila Pass at an altitude of 13,000 feet. The oblong-obovate leaves are dark green above and dark to golden brown beneath. The flowers are a rich reddish purple.

59498. *RHODODENDRON* sp.

Nos. 11049 (fruit), 9210 (flowers). October, 1923. A shrub 2 feet high growing in masses in the Sila Pass at an altitude of 13,000 feet. The elliptical-obovate leaves are grayish brown beneath, and the flowers are deep carmine.

59499. *RHODODENDRON* sp.

Nos. 11051 (fruit), 9208 (flowers). October, 1923. A shrub 5 feet high found in the Sila Pass at an altitude of 12,000 feet. The leaves are small and obovate, and the flowers are yellow with a pinkish tinge.

59500. *RHODODENDRON* sp.

Nos. 11052 (fruit), 9206 (flowers). October, 1923. A shrub 2 feet high, growing in masses in the Sila Pass at an altitude of 13,000 feet. The elongated elliptical leaves are pale brown beneath, and the flowers are large and reddish purple.

59501. *RHODODENDRON* sp.

Nos. 11053 (fruit), 9229 (flowers). October, 1923. A shrub 5 feet high found in the Sila Pass at an altitude of 12,000 feet. The small, obovate leaves are golden yellow beneath, and the flowers are large and purplish red.

59502. *RHODODENDRON* sp.

Nos. 11058 (fruit), 9218 (flowers). October, 1923. A shrub 6 feet high growing in the Sila Pass at an altitude of 13,000 feet. The glabrous, oval leaves are green on both sides, and the flowers are cream colored with a pinkish tinge.

59503. *RHODODENDRON* sp.

Nos. 11060 (fruit), 9202 (flowers). October, 1923. A shrub 6 feet high found in the Sila Pass at an altitude of 12,000 feet. The obovate-oblong leaves are golden yellow to pale green beneath, and the flowers are small purplish pink.

59504. *RHODODENDRON* sp.

Nos. 11062 (fruit), 9239 (flowers). October, 1923. A shrub 6 feet high found in the Sila Pass. The glabrous oval leaves are pale green beneath, and the flowers are very large and pale pink.

59505. *RHODODENDRON* sp.

Nos. 11067 (fruit), 9236 (flowers). October, 1923. A shrub 5 feet high growing in the Sila Pass at an altitude of 12,000 feet. The glabrous, oval leaves are green on both sides; the flowers are yellow.

59506. *RHODODENDRON* sp.

Nos. 11071 (fruit), 8716 (flowers). October, 1923. A tree 12 to 20 feet high found on the lower slopes of the Tseku Mountains at an altitude of 11,000 feet. The oblong, acute leaves are dark brown tuberculate beneath, and the flowers are lavender, spotted with purple.

59507. *RHODODENDRON* sp.

Nos. 11075 (fruit), 8714 (flowers). October, 1923. A small tree 8 to 10 feet high found on the slopes of the Tseku Mountains at an altitude of 10,000 feet. The long, lanceolate leaves are dark, ashy gray beneath, and the flowers are deep pink.

59403 to 59642—Continued.

59508. *RHODODENDRON* sp.

Nos. 11079 (fruit), 8723 (flowers). October, 1923. A shrub 3 feet high found in the alpine region of Tseku at an altitude of 12,000 feet. The leaves are small, oval, and glabrous, and the small, yellow flowers are produced on long pedicels.

59509. *RHODODENDRON* sp.

Nos. 11086 (fruit), 9248 (flowers). November, 1923. A shrub 1 to 2 feet high found in alpine meadows of the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 14,000 to 15,000 feet. The very small, oval leaves are brown tomentose beneath, and the flowers are bluish purple.

59510. *RHODODENDRON* sp.

Nos. 11087 (fruit), 9942 (flowers). November, 1923. A shrub 5 feet high found in the alpine region of the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 15,000 feet. The oval, acute leaves are brown beneath.

59511. *RHODODENDRON* sp.

Nos. 11090 (fruit), 9242 (flowers). November, 1923. A shrub 6 feet high found in the alpine region of the Peima Mountains, Mekong-Yangtze Divide. The oval, acute leaves are brown tomentose beneath, and the flowers are pink with a purple tinge and spotted dark purple.

59512. *RHODODENDRON* sp.

Nos. 11095 (fruit), 8853 (flowers). November, 1923. A shrub 4 feet high found in the alpine region of the Peima Mountains at an altitude of 14,000 feet. The oval leaves are green on both sides, and the flowers are purple.

59513. *RHODODENDRON* sp.

Nos. 11098 (fruit), 9268 (flowers). November, 1923. A shrub 1 foot high found in the high alpine region of the Peima Mountains at an altitude of 14,000 feet. The acute elliptical leaves, half an inch long, are a silky brown beneath. The flowers are deep indigo shading to lighter blue.

59514. *RHODODENDRON* sp.

Nos. 11100 (fruit), 8858 (flowers). November, 1923. A shrub 4 to 5 feet high found in the Peima Mountains at an altitude of 13,000 feet. The oval, acute leaves are brown tomentose beneath, and the flowers are purple but paler toward the base.

59515. *RHODODENDRON* sp.

Nos. 11101 (fruit), 9973 (flowers). November, 1923. A tree 8 to 10 feet high found in the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 14,000 feet. The leaves are elliptical, acute at both ends, and brown tomentose beneath. The flowers are white.

59516. *RHODODENDRON* sp.

Nos. 11102 (fruit), 8856 (flowers). November, 1923. A shrub 4 to 5 feet high, similar to No. 11101 [S. P. I. No. 59515], but having pink flowers; found in the Peima Mountains at an altitude of 14,000 feet.

59517. *RHODODENDRON* sp.

Nos. 11103 (fruit), 8852 (flowers). November, 1923. A shrub 3 feet high found in the Peima Mountains at an altitude of 13,000 to 14,000 feet. The ovate-elliptical, acute leaves are brown tomentose beneath, and the flowers shade from white to purple.

59518. *RHODODENDRON* sp.

Nos. 11104 (fruit), 8862 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at an altitude of 13,000 feet. The elliptical-oblong leaves are fawn-colored tomentose beneath, and the flowers are white with a pinkish tinge.

59403 to 59642—Continued.

59519. RHODODENDRON sp.

Nos. 11105 (fruit), 9273 (flowers). November, 1923. A shrub 10 feet high found in the alpine regions of the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 14,000 feet. The linear-oblong, rich-green leaves are pale brown tomentose beneath, and the flowers are white.

59520. RHODODENDRON sp.

Nos. 11107 (fruit), 8854 (flowers). November, 1923. A shrub 5 to 6 feet high found in the Peima Mountains at an altitude of 14,000 feet. Leaves the same as No. 11106 [S. P. I. No. 59135], and the flowers are pink.

59521. RHODODENDRON sp.

Nos. 11108 (fruit), 9267 (flowers). November, 1923. A shrub 10 feet high found in the Peima Mountains at an altitude of 13,000 feet. The oval-elliptical leaves are brown tomentose beneath, and the flowers are white spotted with purple.

59522. RHODODENDRON sp.

Nos. 11113 (fruit), 8925 (flowers). November, 1923. A shrub 5 feet high found in the Peima Mountains, Mekong-Yangtze Divide, at an altitude of 13,000 feet. The linear-lanceolate, leathery leaves are deep rufous tomentose beneath. The flowers are large and white.

59523. RHODODENDRON sp.

Nos. 11114 (fruit), 9252 (flowers). November, 1923. A shrub 5 to 10 feet high found on the slopes of the Peima Mountains at an altitude of 13,000 feet. The ovate leaves on long petioles are subcordate at the base, and the large bright-yellow flowers are produced in large umbels.

59524. RHODODENDRON sp.

Nos. 11115 (fruit), 9939 (flowers). November, 1923. A shrub 3 to 4 feet high found in the Peima Mountains at an altitude of 14,000 feet. The long, linear-lanceolate, leathery leaves are deep green above and densely covered beneath with rufous wool. The flowers are white.

59525. RHODODENDRON sp.

Nos. 11138 (fruit), 8703 (flowers). November, 1923. A shrub 6 to 8 feet high found in the alpine meadows of Liting at an altitude of 12,000 feet. The oblong, acute leaves are green on both sides, and the flowers are deep red.

59526. RHODODENDRON sp.

Nos. 11145 (fruit), 8956 (flowers). November, 1923. A small tree 8 to 10 feet high found in the mountains of Anwa (Mekong Valley). The leaves are large, obovate, and cordate, and the flowers are rich white.

59527. RHODODENDRON sp.

Nos. 11149 (fruit), 9326 (flowers). November, 1923. A shrub 6 feet high found in the Moting Mountains northeast of Atuntze at an altitude of 14,000 feet. The oblong-lanceolate leaves are brown tomentose beneath, and the flowers are pale pink spotted with purple.

59528. RHODODENDRON sp.

Nos. 11150 (fruit), 9317 (flowers). November, 1923. A shrub 5 feet high found in the Moting Mountains northeast of Atuntze. The ovate-oblong leaves are densely matted beneath and pale yellow tomentose; the flowers are rich purplish red, spotted with dark purple.

59529. RHODODENDRON sp.

No. 11151. Moting Mountains, Mekong-Yangtze Divide. November, 1923. A small tree 8 feet high growing at an altitude of 14,000 feet. The oblong leaves are densely matted beneath with pale tomentum; the flowers are pinkish white.

59403 to 59642—Continued.

59530. RHODODENDRON sp.

Nos. 11152 (fruit), 9320 (flowers). Moting Mountains, Mekong-Yangtze Divide. November, 1923. A shrub 5 feet high found at an altitude of 13,000 feet. The leaves are ovate, green, and glabrous, and the large rich-yellow flowers are borne in large umbels.

59531. RHODODENDRON sp.

Nos. 11153 (fruit), 9313 (flowers). Moting Mountains, Mekong-Yangtze Divide. November, 1923. A tree 13 to 15 feet high with large, oblong leaves, densely matted beneath with pale-yellow, glossy tomentum; the flowers are pink.

59532. RHODODENDRON sp.

Nos. 11155 (fruit), 10104 (flowers). Champu-tong, Salwin-Irrawaddy Divide. November, 1923. A shrub 5 feet high growing at an altitude of 12,000 feet. The obovate-oblong leaves have a peculiar brown, flaky tomentum. The flowers are red.

59533. RHODODENDRON sp.

Nos. 11156 (fruit), 10211 (flowers). Champu-tong, Salwin-Irrawaddy Divide. October, 1923. The obovate-oblong, dark-green leaves are chocolate-brown tomentose beneath. The very large flowers are rich carmine.

59534. RHODODENDRON sp.

Nos. 11159 (fruit), 10128 (flowers). Champu-tong, Mount Kenichunpu. October, 1923. A tree 12 to 15 feet high growing at an altitude of 12,000 feet. The large, obovate-oblong rounded leaves are covered beneath with tomentum shaded from fawn to red. The flowers are yellowish red.

59535. RHODODENDRON sp.

Nos. 11160 (fruit), 10176 (flowers). October, 1923. A shrub 6 inches high found in the alpine regions of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 14,000 feet. The small, elliptical, glabrous leaves are glaucous beneath, and the flowers, drooping on long erect pedicels, are red with a glaucous tinge.

59536. RHODODENDRON sp.

Nos. 11162 (fruit), 10142 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. November, 1923. A shrub 5 to 6 feet high found at an altitude of 13,000 feet. The obovate-oblong, green leaves are dark rough squamous tomentose beneath. The flowers are red.

59537. RHODODENDRON CRASSUM Franch.

Nos. 11166 (fruit), 10168 (flowers). October, 1923. A small tree 6 to 8 feet high found on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 11,000 feet. The large, oblong-elliptical leaves are brownish, glabrous, and punctate beneath. The flowers are white.

59538. RHODODENDRON FULVIDES Balf. f. and Forrest.

Nos. 11168 (fruit), 10214 (flowers). Champu-tong, Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree 15 feet high found at an altitude of 12,000 feet. The large, oblong, pale-brown leaves are thinly tomentose beneath. The flowers are red.

59539. RHODODENDRON sp.

Nos. 11170 (fruit), 10257 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 3 to 4 feet high found at an altitude of 13,000 feet. The small, spatulate leaves, greenish beneath, have squamously brown tomentose veins.

59403 to 59642—Continued.

59540. RHODODENDRON sp.

Nos. 11172 (fruit), 10194 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 2 to 3 feet high found at an altitude of 13,000 feet. The elliptical leaves, glaucous beneath, are tuberculate, and the flowers are small and yellow.

59541. RHODODENDRON sp.

Nos. 11174 (fruit), 10127 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree 18 feet high with oblong, glabrous leaves, acute at both ends, and silvery to golden yellow beneath. The flowers are white and fragrant.

59542. RHODODENDRON sp.

Nos. 11184 (fruit), 10131 (flowers). October, 1923. A shrub 5 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The obovate-elliptical leaves have hirsute bases and petioles and are chocolate-colored tomentose beneath. The flowers are red.

59543. RHODODENDRON sp.

Nos. 11185 (fruit), 10155 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A very robust plant 10 feet high with obovate-oval, oblong, large leaves which are rich-brown tomentose beneath and dark green above. The flowers are red.

59544. RHODODENDRON sp.

Nos. 11187 (fruit), 10221 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree 16 to 20 feet high found at an altitude of 13,000 feet. The large, obovate-oblong, dark-green leaves are deep reddish brown tomentose beneath, and the flowers are red.

59545. RHODODENDRON sp.

Nos. 11194 (fruit), 10146 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A small tree 8 feet high found at an altitude of 13,000 feet. The oval-oblong, acute leaves are yellowish brown to olive-green pubescent beneath and have yellow hirsute petioles. The flowers are pink.

59546. RHODODENDRON sp.

Nos. 11199 (fruit), 10099 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 2 feet high growing at an altitude of 13,000 feet. The spatulate leaves are drab colored beneath, and the flowers are yellowish red.

59547. RHODODENDRON sp.

Nos. 11200 (fruit), 10138 (flowers). October, 1923. A tree 18 to 20 feet high found in the forests of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 11,000 feet. The leaves are oblong acute, green, and glabrous, and the red flowers are produced on long pedicels.

59548. RHODODENDRON sp.

Nos. 11204 (fruit), 10121 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 4 to 5 feet high found at an altitude of 13,000 feet. The ovate-obovate leaves are dark-brown, densely squamately tomentose beneath. The flowers are red.

59549. RHODODENDRON sp.

Nos. 11206 (fruit), 10173 (flowers). Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 2 feet high, growing at an altitude of 13,000 feet. The oval-elliptical leaves are chocolate brown tomentose beneath, and the flowers are orange-red.

59403 to 59642—Continued.

59550. RHODODENDRON sp.

Nos. 11207 (fruit), 10119 (flowers). October, 1923. A tree 16 to 18 feet high growing on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 12,000 to 13,000 feet. The large, obovate-oblong leaves are deep brown to carmine tomentose beneath, and the flowers are red.

59551. RHODODENDRON sp.

No. 11209. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 7 feet high found at an altitude of 13,000 feet. The ovate leaves, subcordate at the base, are glaucous and green beneath.

59552. RHODODENDRON sp.

No. 11210. Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 3½ feet high growing at an altitude of 13,000 feet. The oval leaves are densely matted and brown beneath, and the flowers are yellow.

59553. RHODODENDRON sp.

No. 11212. Kenichunpu, Salwin-Irrawaddy Divide, October, 1923. A shrub 2 feet high found at an altitude of 13,000 feet. The leaves are dark purplish gray tomentose beneath.

59554. RHODODENDRON sp.

No. 11213. October, 1923. A shrub 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oval-oblong leaves are faintly brown tomentose and subglabrous beneath, and the petioles are hirsute.

59555. RHODODENDRON sp.

No. 11216. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 3 feet high found at an altitude of 13,000 feet. The elliptical-ovate leaves are pale glaucous and brown beneath, and the flowers are red.

59556. RHODODENDRON sp.

No. 11217. October, 1923. A shrub or small tree 15 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The oblong, acute, glabrous leaves are green on both sides.

59557. RHODODENDRON MEGACALYX Balf. f. and Ward.

No. 11222. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub 6 feet high found on rocky slopes at an altitude of 13,000 feet. The large, oblong leaves are greenish gray and glabrous beneath, and the veins are rufous tomentose. The flowers are white.

59558. RHODODENDRON sp.

No. 11223. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A shrub or small tree 15 feet high found at an altitude of 13,000 feet. The large leaves are covered with a brown wool underneath.

59559. RHODODENDRON FULVIDES Balf. f. and Forrest.

No. 11225. Mount Kenichunpu, Salwin-Irrawaddy Divide. October, 1923. A tree or shrub 6 to 8 feet high found at an altitude of 13,000 feet. The oblong leaves are yellowish brown floccose beneath.

59560. RHODODENDRON sp.

No. 11227. October, 1923. A shrub 4 feet high growing on Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 13,000 feet. The large, obovate leaves are chocolate-colored tomentose beneath, and the flowers are red.

59403 to 59642—Continued.

59561. RHODODENDRON SINONUTTALLII Balf. f. and Forrest.

Nos. 11233 (fruit), 10130 (flowers). October, 1923. A tree 8 to 10 feet high growing on the slopes of Mount Kenichunpu, Salwin-Irrawaddy Divide, at an altitude of 11,000 feet. The large, leathery leaves, prominently veined, are deeply impressed above and brownish gray and punctate beneath. The very large flowers, 3 inches in diameter, are yellow to cream colored. The fruits are enormous.

59562. RHODODENDRON sp.

No. 11240. October, 1923. A shrub or small tree 6 feet high growing in Sila among firs at an altitude of 13,000 feet. The oblong-acute leaves are grayish brown tomentose beneath.

59563. RHODODENDRON sp.

No. 11242. October, 1923. A tree 20 feet high found on Mount Lautchun west of Likiang at an altitude of 11,000 feet. The large, oblong leaves are densely covered with brown wool beneath. The large flowers are white.

59564. RHODODENDRON sp.

No. 11243. Mount Lautchun. October, 1923. A shrub 1½ feet high found at an altitude of 12,000 feet. The small, elliptical leaves are punctate beneath, and the flowers are small and a deep indigo blue.

59565. RHODODENDRON sp.

Nos. 11244 (fruit), 8394 (flowers). Mount Lautchun. October, 1923. A tree 24 feet high found in fir forests at an altitude of 11,000 feet. The oblong leaves are covered with a brown wool beneath, and the flowers are large and white.

59566. RHODODENDRON sp.

No. 11246. Mount Lautchun. October, 1923. A tree 10 feet high found in fir forests at an altitude of 12,000 feet. The elliptical, acute leaves are yellow brown tomentose beneath. The flowers are white.

59567. RHODODENDRON sp.

Nos. 11247 (fruit), 9585 (flowers). Mount Lautchun. October, 1923. A shrub 5 to 6 feet high found at an altitude of 12,000 feet. The leaves are obovate, subcordate, and glabrous, and the flowers are cream colored to yellow with a pinkish tinge.

59568. RHODODENDRON sp.

No. 11248. Mount Lautchun. October, 1923. A shrub 5 feet high found in fir forests at an altitude of 12,000 feet. The oblong, acute leaves are green and glabrous on both sides and the flowers are pink.

59569. RHODODENDRON sp.

No. 11249. Mount Lautchun. October, 1923. A shrub 1 to 2 feet high found at an altitude of 13,000 feet and having very small, elliptical leaves, brown tomentose beneath, and small, deep blue-purple flowers.

59570. RHODODENDRON sp.

Nos. 11250 (fruit), 8422 (flowers). October, 1923. A shrub 5 feet high found in fir forests on Mount Lautchun at an altitude of 12,000 feet. The linear-lanceolate leaves are deep rufous woolly beneath, and the flowers are pink spotted with purple, making them very handsome.

59571. RHODODENDRON sp.

Nos. 11251 (fruit), 8400 (flowers). October, 1923. A shrub 4 feet high found in the alpine regions of Mount Lautchun, at an altitude of 12,000 feet. The elliptical, dark-green leaves are reticulate above and rufous woolly beneath. The flowers are pink.

59403 to 59642—Continued.

59572. RHODODENDRON sp.

No. 11253. October, 1923. A shrub 8 feet high growing on Mount Lautchun, at an altitude of 13,000 feet. The small, linear-elliptical leaves are deeply rufous beneath, and the flowers are white.

59573. RHODODENDRON sp.

Nos. 11255 (fruit), 8381 (flowers). Mount Lautchun. October, 1923. A shrub or tree 18 feet high growing at an altitude of 12,000 feet. The large, oval, subcordate leaves are densely matted with brown wool, and the flowers are white to pink.

59574. RHODODENDRON sp.

No. 11257. October, 1923. A tree 15 to 18 feet high found in mixed forests on the slopes of Mount Lautchun at an altitude of 10,000 feet. The large, oblong, glabrous leaves are pale grayish green beneath. The flowers are red to purple.

59575. RHODODENDRON sp.

No. 11261. October, 1923. A shrub 5 feet high growing on the slopes of Mount Lautchun at an altitude of 10,000 feet. The leaves are linear-oblong and are covered beneath with a deep rufous wool. The flowers are pink.

59576. RHODODENDRON sp.

No. 11262. October, 1923. A shrub 3 feet high growing at an altitude of 10,000 feet in fir forests on Mount Lautchun. The leaves are small, oval, glabrous, and grayish purple beneath. The flowers are pink.

59577. RHODODENDRON RACEMOSUM Franch.

No. 11264. October, 1923. A handsome species 3 feet high growing at the foot of Mount Lautchun at an altitude of 8,000 to 9,000 feet. The small, elliptical-oval leaves are pale pink to white beneath, and the flowers are pink.

59578. RHODODENDRON RACEMOSUM Franch.

Nos. 11265 (fruit), 8404 (flowers). October, 1923. A shrub 2 to 3 feet high growing at the foot of Mount Lautchun at an altitude of 8,000 to 9,000 feet. The oval leaves, white beneath, are black punctate. The large white flowers are very striking.

59579. RHODODENDRON sp."

Nos. 11266 (fruit), 8392 (flowers). October, 1923. A shrub 6 feet high growing on the slopes of Mount Lautchun at an altitude of 9,000 feet. The leaves are oval, acute, coriaceous, pale green, and glabrous on both sides; the flowers are large and pure white spotted with purple.

59580. RHODODENDRON sp.

Nos. 11268 (fruit), 9596 (flowers). October, 1923. A shrub 4 feet high growing at the foot of Mount Lautchun at an altitude of 8,000 feet. The small, oval, acute leaves are glaucous and glabrous beneath, and the flowers are white.

59581. RHODODENDRON sp.

Nos. 11273 (fruit), 8430 (flowers). October, 1923. A tree 25 feet high found among rocks in the alpine regions of Mount Shenzi at an altitude of 10,000 feet. The oblong-acute leaves are glaucous and glabrous on both sides, and the flowers are white.

59582. RHODODENDRON sp.

Nos. 11274 (fruit), 9505 (flowers). October, 1923. A tree 15 to 18 feet high growing in mixed forests on Mount Shenzi at an altitude of 10,000 feet. The oblong, acute leaves are coriaceous, glaucous, and glabrous, and have undulate margins. The flowers are white.

59403 to 59642—Continued.

59583. RHODODENDRON sp.

Nos. 11277 (fruit), 8426 (flowers). October, 1923. An exceedingly handsome species 2 to 3 feet high found among limestone boulders on Mount Shenzi at an altitude of 13,000 feet. The oval, acute leaves have impressed veins above and are densely matted beneath with rough cottony tomentum. The flowers are very large and pink.

59584. RHODODENDRON sp.

No. 11279. October, 1923. A tree 10 feet high growing on the slopes of Mount Shenzi at an altitude of 10,000 feet. The oblong, acute leaves are glabrous and pale brown beneath, and the flowers are red.

59585. RHODODENDRON sp.

Nos. 11281 (fruit), 8437 (flowers). October, 1923. A shrub 4 feet high growing among rocks in Labako, at an altitude of 9,000 feet. The leaves, lanceolate-oval and acute at both ends, are glabrous and glaucous beneath. The flowers are large and white spotted with purple.

59586. RHODODENDRON sp.

No. 11282. October, 1923. A shrub 8 feet high growing among rocks in the forests of Labako at an altitude of 9,000 feet. The oblong, acute, dull-green leaves, pale brownish green beneath, are strongly veined.

59587. RHODODENDRON sp.

Nos. 11284 (fruit), 9523 (flowers). October, 1923. A shrub 3 feet high found in the alpine meadows of Labako at an altitude of 14,000 feet. The small, elliptical leaves are dotted with brown beneath, and the flowers are lavender-blue.

59588. RHODODENDRON sp.

No. 11286. October, 1923. A tree 15 feet high found in fir forests on the mountains of Labako at an altitude of 12,000 feet. The obovate-oblong leaves are densely covered beneath with rough brown tomentum, and the flowers are large and pink.

59589. RHODODENDRON sp.

Nos. 11292 (fruit), 8446 (flowers). October, 1923. An exceedingly handsome species growing 6 to 8 feet high among rocks in the alpine region of Labako at an altitude of 13,000 feet. The narrow, linear, needle-shaped leaves are covered beneath with deep-red wool. The flowers are pink, spotted with purple.

59590. RHODODENDRON sp.

No. 11293. Labako. October, 1923. A shrub 6 feet high found in the alpine region at an altitude of 13,000 feet. The leaves are linear lanceolate and needle shaped and are covered beneath with a rufous wool. The flowers are white.

59591. RHODODENDRON sp.

No. 11298. October, 1923. A shrub 5 feet high found in the alpine region of Labako at an altitude of 9,000 feet. The orbicular-oval cordate leaves are glaucous purple beneath, and the flowers are red.

59592. RHODODENDRON sp.

Nos. 11299 (fruit), 8474 (flowers). Labako. October, 1923. A shrub 4 to 5 feet high found along stream beds in mixed forests at an altitude of 10,000 feet. The narrow, elliptical leaves are pale green above and pale gray-green beneath. The flowers are handsome yellow.

59403 to 59642—Continued.

59593. RHODODENDRON sp.

Nos. 11300 (fruit), 9511 (flowers). October, 1923. A shrub 7 to 8 feet high found in forests on the slopes of Mount Kintze at an altitude of 10,000 feet. The elliptical, acute leaves are brownish green and glabrous beneath. The flowers are purple.

59594. RHODODENDRON sp.

Nos. 11302 (fruit), 9499 (flowers). October, 1923. A shrub 7 to 8 feet high found on the alpine slopes of Mount Kintze at an altitude of 13,000 feet. The narrow, linear leaves are rufous woolly beneath, and the flowers are white.

59595. RHODODENDRON sp.

Nos. 11309 (fruit), 9478 (flowers). October, 1923. A shrub 6 feet high growing on the rocky alpine slopes of Mount Kintze at an altitude of 13,000 feet. The elliptical, acute leaves are densely covered with rufous wool beneath, and the flowers are white.

59596. RHODODENDRON sp.

Nos. 11317 (fruit), 8702 (flowers). October, 1923. A shrub 6 to 8 feet high found in the alpine meadows of Litiping, Mekong-Yangtze Divide. The rich-green leaves are oval-elliptical and acute at both ends. The flowers are lavender.

59597. RHODODENDRON sp.

Nos. 11318 (fruit), 9194 (flowers). October, 1923. A shrub 3 feet high growing in the swampy, alpine meadows of Litiping at an altitude of 12,000 feet. The elliptical leaves are covered beneath with a bronze-colored pubescence. The flowers are deep bluish purple.

59598. RHODODENDRON sp.

No. 11319. October, 1923. A shrub 1 to 2 feet high growing in the swampy alpine meadows of Litiping at an altitude of 12,000 feet. The very small, oval-elliptical leaves are bronze-colored tomentose beneath, and the flowers are rich blue.

59599. RHODODENDRON sp.

Nos. 11328 (fruit), 9749 (flowers). Peima Mountains. November, 1923. A shrub 3 to 4 feet high found at an altitude of 13,000 feet. The oval, glabrous leaves, rounded at both ends, are pale green beneath, and the flowers are pinkish white with deep-purple markings.

59600. RHODODENDRON sp.

No. 11329. November, 1923. A shrub 7 to 8 feet high found on the alpine slopes of the Peima Mountains at an altitude of 13,000 feet. The oval-elliptical leaves are pale, or dark brown, soft tomentose beneath.

59601. RHODODENDRON ARALIAEFORME Balf. f. and Forrest.

Nos. 11331 (fruit), 10359 (flowers). Atuntze Mountains. November, 1923. A shrub 5 to 6 feet high found at an altitude of 11,500 feet. The oval, glabrous leaves are pale yellow beneath.

59602. RHODODENDRON sp.

No. 11333. November, 1923. A shrub 8 to 10 feet high growing on the alpine slopes of Mount Peima at an altitude of 15,000 feet. The large, ovate-oblong leaves are a rich golden brown, soft tomentose beneath.

59403 to 59642—Continued.

59603. RHODODENDRON sp.

No. 11334. November, 1923. A tree 10 to 15 feet high found on the high passes east of Atuntze, Mount Moting, at an altitude of 13,000 feet. The very large, oblong-acute leaves are pale silvery to pale brown beneath.

59604. RHODODENDRON sp.

No. 11336. Mount Moting. November, 1923. A shrub 4 feet high growing at an altitude of 14,000 feet. The oblong leaves, with the margins folded inward, are pale brown, farinaceous tomentose beneath.

59605. RHODODENDRON sp.

No. 11337. November, 1923. A shrub 6 to 10 feet high found in the passes of Mount Moting at an altitude of 14,000 feet. The large, oblong leaves, acute at both ends, have deciduous, rich-brown tomentum beneath.

59606. RHODODENDRON sp.

No. 11338. November, 1923. A shrub 5 to 6 feet high growing on the alpine slopes of Mount Peima at an altitude of 14,000 to 15,000 feet. The oval, acute leaves are covered beneath with a brown, flaky tomentum.

59607. RHODODENDRON sp.

No. 11339. Mount Peima. November, 1923. A shrub 4 feet high growing on alpine slopes at an altitude of 14,000 to 15,000 feet. The elliptical-oblong leaves, with infolded margins, are pale-yellow tomentose beneath.

59608. RHODODENDRON sp.

No. 11340. A shrub growing on Mount Peima at an altitude of 14,000 to 15,000 feet.

For description, see S. P. I. No. 59607.

59609. RHODODENDRON sp.

No. 11343. Mount Moting. November, 1923. A shrub 5 to 8 feet high growing at an altitude of 14,000 to 15,000 feet. The leaves are oblong, acute, with deciduous tomentum beneath.

59610. RHODODENDRON sp.

Nos. 11345 (fruit), 9334 (flowers). November, 1923. A shrub 6 feet high growing on the alpine slopes of Mount Moting at an altitude of 14,000 to 15,000 feet. The broadly obovate-oblong, blunt leaves are covered beneath with deciduous flaky tomentum. The flowers are pink.

59611. RHODODENDRON sp.

Nos. 11346 (fruit), 1975 (flowers). Litiping, Mekong-Yangtze Divide. November, 1923. A shrub 12 feet high growing at an altitude of 12,000 feet. The long, linear-oblong, acute leaves are pale green and glabrous beneath. The flowers are pink.

59612. RHODODENDRON sp.

No. 11349. November, 1923. A shrub 5 to 6 feet high growing on the summit of Shund-sangtu, Mekong-Salwin Divide, at an altitude of 13,000 feet. The obovate-oblong, acute leaves are dull green above and brownish beneath.

59613. RHODODENDRON sp.

No. 11352. November, 1923. A shrub or tree up to 20 feet high growing in masses on the slopes of Mount Peima, Mekong-Yangtze Divide, at an altitude of 15,000 feet. The large, oval, acute leaves are covered beneath with a silky, bronze-colored tomentum.

59614. RHODODENDRON sp.

No. 11357. December, 1923. A tree 15 to 20 feet high found in mixed forests on the slopes of Pongela, Yangtze Divide, at an altitude of 11,000 feet. The leaves are oblong, acute, both sides being glossy green and glabrous. The flowers and fruits are red.

59403 to 59642—Continued.

59615. RHODODENDRON sp.

Nos. 11363 (fruit), 8527 (flowers). Haraku, Likiang Snow Range. November, 1923. A shrub 3 feet high found in swampy meadows at an altitude of 11,000 feet. The small, elliptical-elongate leaves are pale yellow beneath, and the flowers are rich blue.

59616. RHODODENDRON sp.

No. 11365 (fruit), 8495 (flowers). Haraku, Likiang Snow Range. November, 1923. A shrub 2 to 3 feet high found at an altitude of 11,000 feet. The small, narrow, elliptical leaves are pale beneath, and the flowers are dark purplish blue.

59617. RHODODENDRON sp.

Nos. 11367 (fruit), 8510 (flowers). Likiang Snow Range. November, 1923. A stiff-branched shrub 5 to 6 feet high found at an altitude of 11,000 feet. The leaves are oblong and leathery and are matted beneath with a pale wool. The flowers are large and white dotted with red.

59618. RHODODENDRON sp.

Nos. 11371 (fruit), 8499 (flowers). November, 1923. A shrub 5 to 8 feet high found on the slopes of the Likiang Snow Range at an altitude of 13,000 feet. The large, oblong leaves are dark green above and pale-yellow tomentose beneath. The flowers are white with a pinkish tinge.

59619. RHODODENDRON sp.

Nos. 11373 (fruit), 8496 (flowers). November, 1923. A shrub 6 to 8 feet high growing on the alpine slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oval-oblong leaves are white to cream-colored tomentose beneath. The flowers are large and white.

59620. RHODODENDRON sp.

Nos. 11381 (fruit), 8283 (flowers). November, 1923. A shrub 12 to 15 feet high found on the Sungkwe Pass at an altitude of 10,000 feet. The large, elliptical-oblong glabrous leaves, uniformly green, are strongly veined beneath. The flowers are pinkish white.

59621. RHODODENDRON sp.

Nos. 11383 (fruit), 8259 (flowers). November, 1923. A tree 20 feet high found on the Sungkwe Pass south of Likiang, at an altitude of 11,000 feet. The broadly oval to obovate leaves are covered beneath with a faintly brown tomentum. The flowers are large and rich pink.

59622. RHODODENDRON sp.

Nos. 11389 (fruit), 8965 (flowers). November, 1923. A shrub 6 feet high found in the alpine meadows of Litiping, Mekong-Yangtze Divide, at an altitude of 12,000 feet. The leaves are ovate and pale yellow and glaucous beneath. The flowers are rich yellow.

59623. RHODODENDRON NIPHARGUM Balf. f. and Ward.

Nos. 11391 (fruit), 8360 (flowers). Heshwe Road. October, 1923. A small tree 12 to 15 feet high found along stream beds in mixed forests (Tsuga predominant) on the western slopes of the Likiang Snow Range at an altitude of 10,000 to 11,000 feet. The large, oblong-obovate leaves, with prominent veins, are silvery gray underneath. The flowers are pink.

59624. RHODODENDRON sp.

No. 11397. November, 1923. A tree 25 feet high growing in Ganhaitze on the western slopes of the Likiang Snow Range at an altitude of 12,000 feet. The large, oblong leaves are dark green and glossy above and densely rufous brown beneath. The flowers are white.

59403 to 59642—Continued.

59625. RHODODENDRON sp.

No. 11408 (fruit), 8223 (flowers). Saba, Likiang Snow Range. November, 1923. One of the finest species, 15 to 20 feet high, found in larch forests at an altitude of 11,000 to 11,500 feet. The oval, acute, subcordate leaves are glabrous on both sides and pale beneath. The large, pink flowers, produced in large corymbs, are faintly fragrant.

59626. RHODODENDRON sp.

No. 11418. November, 1923. A shrub 3 feet high growing in pine forests of the Likiang Snow Range at an altitude of 10,000 to 11,000 feet. The elliptical-oval, green leaves are glabrous on both sides, and the large, purple-lavender flowers are produced on slender pedicels.

59627. RHODODENDRON sp.

No. 11429. November, 1923. A handsome species 6 feet high growing on the alpine slopes among rocks on the Likiang Snow Range at an altitude of 14,000 feet. The oval, glabrous leaves are dotted beneath, and the petioles and stems are carmine purple. The flowers are large and red.

59628. RHODODENDRON sp.

No. 11452. November, 1923. A tree 8 to 10 feet high found in the Sungkwe Mountains, south of Likiang, at an altitude of 11,000 feet. The oblong-ovate leaves are densely covered beneath with cinnamon-brown tomentum. The flowers are large and white.

59629. RHODODENDRON sp.

No. 11453. November, 1923. A shrub 8 feet high found on the Sungkwe Mountains south of Likiang at an altitude of 11,000 feet. The oblong, acute, aromatic leaves are green on both sides but dotted with brown beneath. The flowers are pale pink.

59630. RHODODENDRON sp.

No. 11454. Sungkwe Mountains. November, 1923. A shrub 8 feet high found at an altitude of 11,000 feet. The leaves are coriaceous and pale yellow beneath. The flowers are large and white.

59631. RHODODENDRON sp.

No. 11455. Sungkwe Mountains, south of Likiang. November, 1923. An aromatic shrub 1 to 3 feet high found among rocks at an altitude of 11,000 feet. The small, elliptical leaves are covered with pale-brown pubescence beneath, and the flowers are white.

59632. RHODODENDRON sp.

No. 11460. November, 1923. A shrub 10 feet high growing on the alpine slopes of the Likiang Snow Range at an altitude of 13,000 feet. The very large, oblong leaves are glossy green above and cinnamon brown beneath. The flowers are large and produced in large corymbs.

59633. RHODODENDRON sp.

No. 11461. November, 1923. A shrub 5 feet high found on the alpine slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oval, acute, white to cream-colored leaves are faintly pubescent. The flowers are large and white.

59634. RHODODENDRON sp.

No. 11468. November, 1923. A shrub 2 feet high growing on the alpine, rocky slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oval leaves are brown beneath; the flowers are white, tubular, and fragrant.

59403 to 59642—Continued.

59635. RHODODENDRON sp.

No. 11470. November, 1923. A tree 15 feet high found in fir forests on the alpine slopes of the Likiang Snow Range at an altitude of 14,500 feet. The oblong, acute leaves are pale tomentose beneath, and the flowers are white.

59636. RHODODENDRON sp.

No. 11471. November, 1923. A shrub 3 to 4 feet high found in fir forests on the alpine slopes of the Likiang Snow Range at an altitude of 14,500 feet. The leaves are oblong acute and are covered beneath with pale-brown tomentum. The flowers are large and pink.

59637. RHODODENDRON sp.

No. 11473. November, 1923. A shrub 4 feet high found on the alpine slopes of the Likiang Snow Range at an altitude of 14,000 feet. The oblong-ovate leaves are pale brown silky beneath. The flowers are white.

59638. RHODODENDRON RACEMOSUM Franch.

No. 11476. November, 1923. A shrub 1½ feet high growing with pines on the dry, rocky limestone range opposite the Likiang Snow Range. The leaves are oval and dotted with gray beneath. The flowers are small and red.

59639. ROSA sp. Rosaceæ.

Rose.

No. 11218. October, 1923. A climber growing in the Salwin Valley, Champutong, at an altitude of 7,000 feet. The flowers, 2 inches in diameter, are rich red.

59640. SCABIOSA sp. Dipsacaceæ.

No. 11406. November, 1923. A herb, found in alpine meadows at Saba, Likiang Snow Range, at an altitude of 11,000 feet, with a rosette of lanceolate leaves and small flowers produced in drooping, white, globose heads on long peduncles.

59641. SOPHORA DAVIDII (Franch.) Komorov
(*S. vicifolia* Hance). Fabaceæ.

December, 1923. A spiny shrub, which is a prolific fruiter, 6 to 10 feet high, most common in the arid region of the Mekong, north of Yangtze, and in the Atuntze Valley, at an altitude of 8,000 to 10,000 feet. The leaves are small. This shrub forms the sole food for goats and sheep of this region.

59642. (Undetermined.)

No. 11009. October, 1923. A plant 2 to 3 feet high found in the alpine meadows of Tsechung. The flowers are yellow and have greenish veins.

59643 to 59648.

From Soledad, Cienfuegos, Cuba. Cuttings collected by David Fairchild, Bureau of Plant Industry. Received April 7, 1924. Quoted notes by Doctor Fairchild.

This collection was made at the Cuban Gardens, maintained by Harvard University.

59643. ANTIGONON GUATEMALENSE Meisn. Polygonaceæ.

"The globular heads of this plant appear to be a deeper red than those of the ordinary type. Since the typical form is one of the most desirable climbers in Florida, this should be grown there for comparison with the common type."

59644. HIBISCUS ROSA-SINENSIS L. Malvaceæ.

"Var. *Hedda*. An attractive single, pure-white variety."

59645 and 59646. MANGIFERA INDICA L. Anacardiaceæ. Mango.

59643 to 59648—Continued.

59645. "*Mulgo-fil.* Originated by H. A. Van Hermann, at Finca Mulgoba, Rancho Boyeros, Cuba, about 1917, by crossing the Mulgoba and the 'Philippine' mango. The fruit is pink, yellow, and red, resembling the Mulgoba, but with the long, flat shape of the Philippine variety, with a depression on one side. The fruits are borne in clusters. The seed is flat, and the quality of the flesh good. The name, applied by Mr. Van Hermann, indicates the hybrid origin of the variety."

59646. *Van Hermann.* An improved Chinese mango discovered by Mr. Van Hermann. Unlike most other varieties it does not harbor the black fly, because of its open habit of growth and comparatively scanty foliage. Furthermore, the fruits do not spot with Colletotrichum as do ordinary mangos. The flesh is free from fiber and of good quality, and the tree is a regular bearer at Finca Mulgoba. It is named in honor of its discoverer, Mr. Van Hermann.

59647. *PLUMERIA RUBRA* L. Apocynaceæ.

This strain of *Plumeria rubra* blooms in April in Cuba and may flower earlier in Florida than the white-flowered species, *P. alba*. Its flowers are superb.

59648. *PUNICA GRANATUM* L. Punicaceæ.
Pomegranate.

An attractive double-flowered white variety, which might be useful as a pot plant.

For previous introduction, see S. P. I. No. 55923.

59649. *LITCHI CHINENSIS* Sonner. Sapindaceæ.
Lychee.

From Santiago de las Vegas, Cuba. Fruits presented by H. A. Van Hermann, Finca Mulgoba. Received May 19, 1924.

In the hope of establishing the lychee in Florida, the Office of Foreign Plant Introduction has from time to time distributed young plants to experimenters in that State. Many of these plants have succumbed to cold winters, and at Miami the soil does not seem altogether satisfactory. On the western coast conditions are better in this last-named respect; when planted far enough south to be out of danger from severe frosts, the tree should have a good chance of success. Judging from the conditions under which the lychee is cultivated in southern China, we would expect the banks of the Caloosahatchee, below Fort Myers, to prove better suited to it than most other sections of Florida.

At Santa Barbara, Calif., the behavior of a single specimen planted 20 years ago or more has shown that the lychee can be grown there with a fair degree of success, provided a location practically free from danger of frost is selected. Most attempts to cultivate it in California, however, have resulted in failure. It does not seem likely that it will ever be feasible to grow it commercially in that State.

The excellent quality of the lychee as a fresh fruit and its ability to stand shipment suggest the desirability of establishing lychee orchards somewhere in the Western Hemisphere, so as to supply the North American markets. It may be practicable to develop these in southern Florida. Certainly they would succeed in Cuba, Porto Rico, and tropical America generally. (*Wilson Popenoe, Bureau of Plant Industry.*)

59650. *ALLIUM CEPA* L. Liliaceæ.
Onion.

From Ankober, Abyssinia. Bulbs collected by H. V. Harlan, Bureau of Plant Industry. Received June 3, 1924.

Introduced for onion-breeding tests.

No. 430. December 11, 1923. Purchased in Allu Amba. (*Harlan.*)

59651 to 59671.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received May 2, 1924.

59651. *ACACIA SEYAL* Delile. Mimosaceæ.

A small and rather slender acacia with reddish brown bark, ivory-white spines about 2 inches long, and heads of very fragrant flowers. The tree is common in tropical Africa north of the Equator, and is one of the principal gum-yielding acacias of the Nile region. This gum becomes white and brittle when dry, and has a relatively high viscosity and strong adhesive power.

For previous introduction, see S. P. I. No. 44923.

59652. *ACACIA SUMA* (Roxb.) Kurz. Mimosaceæ.

A medium-sized tree, native to the East Indies, with light-colored bark and branchlets armed with pairs of short, hooked spines. The heartwood is said to yield gum catechu, and the bark is used for tanning.

For previous introduction, see S. P. I. No. 52281.

59653. *ASTRAGALUS* sp. Fabaceæ.

59654. *BETULA* sp. Betulaceæ. Birch.

59655. *CENTAUREA CANARIENSIS* Willd. Asteraceæ.

A rather large bush which is very drought resistant. When covered with its large purple flowers, it is very ornamental. (*Proschowsky.*)

For previous introduction, see S. P. I. No. 53910.

59656. *CUPRESSUS* sp. Pinaceæ.

A very handsome species with drooping, glaucous branches. (*Proschowsky.*)

59657. *DIOSPYROS* sp. Diospyraceæ.

59658. *ENTELEA PALMATA* Lindl. Tiliaceæ.

The native home of this greenhouse shrub appears to be unknown. It grows about 4 feet high with heart-shaped, palmate leaves and umbels of rather small white flowers.

59659. *GAULTHERIA FRAGRANTISSIMA* Wall. Ericaceæ.

An Asiatic relative of the wintergreen which grows wild in the mountains of eastern India. It is a fragrant evergreen shrub or small tree which is loaded in summer with white or pinkish flowers; these are succeeded by racemes of handsome bluish purple berries.

For previous introduction, see S. P. I. No. 48309.

59660. *HYDRANGEA HETEROMALLA* D. Don. Hydrangeaceæ.

A Himalayan hydrangea, about 10 feet high, with red stems, oval, sharp-pointed leaves, white hairy beneath, and white flowers borne in clusters about 6 inches wide.

59661. *LEUCOSCEPTRUM CANUM* J. E. Smith. Menthaceæ.

A stout-branched, densely hairy tree, commonly about 30 feet in height, with large, narrowly ovate leaves, silvery hairy beneath and at times a foot long. The small white or pinkish flowers are in spikes.

For previous introduction, see S. P. I. No. 57888.

59662. *PASSIFLORA ALBA* Link and Otto. Passifloraceæ.

A tropical American passiflora with broadly oval, somewhat heart shaped, shallowly 3-lobed leaves, clear-white flowers over 2 inches across, and yellowish fruits about the size and shape of a hen's egg.

59651 to 59671—Continued.

59663. *PITTIOSPORUM MACROPHYLLUM* Schum. and Lauterb. Pittosporaceæ.

The plant has existed in my garden for more than 20 years. It is the most beautiful of the dozen or so Pittosporum species which I cultivate. The leaves occasionally attain nearly the size of those of *Magnolia grandiflora*, and the flowers are perhaps not surpassed in fragrance by any other flower; indeed the fragrance is most exquisite. (*Proschowsky*.)

59664. *PRUNUS* sp. Amygdalaceæ.

From Indo China.

59665. *PRUNUS* sp. Amygdalaceæ.

From Tran Ninh, Tonkin.

59666. *RHODODENDRON* sp. Ericaceæ.

A hybrid.

59667. *RUBUS LINEATUS* Reinw. Rosaceæ.

An attractive suberect woody plant which is found wild at altitudes of 6,000 to 9,000 feet in the Sikkim Himalayas, according to Hooker (*Flora of British India*). The white flowers are produced in short axillary heads and terminal silvery panicles, and the berries are small and red.

For previous introduction, see S. P. I. No. 48409.

59668. *SAMBUCUS ADNATA* Wall. Caprifoliaceæ.

A Himalayan relative of the elderberry which has clusters of fragrant, white flowers about 10 inches in diameter, followed by red fruits.

For previous introduction, see S. P. I. No. 46100.

59669. *TIPUANA TIPU* (Benth.) Lillo (*T. speciosa* Benth.). Fabaceæ. **Tipu.**

Tipu. Sr. Salvador Izquierdo describes this plant as follows: A handsome, ornamental tree from the Argentine Republic. It has compact, delicate foliage and is excellent for parks and roadways. In its native country it is said to grow nearly as rapidly as *Eucalyptus globulus*. In the Botanic Gardens at Buenos Aires it has reached a height of 4½ meters (15 feet) in 31½ months. Plants imported from Argentina have shown much vigor at Santa Ines, Chile, and have grown even during the winter months. The wood is useful for furniture and rough purposes. Its horizontal branches make it an excellent shade tree.

For trial on the Pacific coast and in our South-western States.

For previous introduction, see S. P. I. No. 54643.

59670. (Undetermined.)

A climbing plant from Indo China which is said to yield rubber.

59671. *VACCINIUM GLAUCO-ALBUM* Hook. f. Vacciniaceæ.

An evergreen Himalayan shrub, about 4 feet high, with stiff, oval leaves, green above and bluish white beneath. The pinkish white flowers are in axillary racemes which are conspicuous because of their large, persistent, blue-white bracts, edged with bristles. The blue-black berries are about one-third of an inch in diameter.

59672 to 59687.

From Lucknow, United Provinces, India. Seeds presented by F. H. Johnson, superintendent, Government Horticultural Gardens. Received May 5, 1924.

59672. *ACACIA AURICULAEFORMIS* A. Cunn. Mimosaceæ.

One of the many species of *Acacia* found native in Australia. It is described by Bentham (*Flora Australiensis*) as a small tree with sickle-shaped

59672 to 59687—Continued.

phyllodia and pods which are irregularly and very much twisted. Of possible value as an ornamental for the most tropical parts of the United States.

59673. *ADANSONIA DIGITATA* L. Bombacaceæ. **Baobab.**

The baobab, originally from central Africa, is now cultivated in many tropical countries and is famous for the great age which it is said to attain. The short, thick trunk sometimes becomes 30 feet in diameter. The pulp of the gourdlike fruit is edible, and the juice is used to make a beverage.

For previous introduction, see S. P. I. No. 42827.

59674. *ANOGEISSUS* sp. Combretaceæ.

Received as *Antidemsa ghesaembilla* but does not agree with that species.

The members of this genus are trees or shrubs, native to India; some of the species are valued for timber and for the gum, used in printing calico, which exudes from the bark.

59675. *CASSIA DIDYMOBOTRYA* Fres. Cæsalpiniaceæ.

An African shrub or small tree, 7 to 10 feet high, with finely divided leaves about a foot long, and numerous yellow flowers in erect racemes up to a foot in length.

For previous introduction, see S. P. I. No. 51632.

59676. *COLVILLEA RACE MOSA* Boj. Cæsalpiniaceæ.

This handsome tropical tree, believed to be native to East Africa, should be tested in southern Florida along with the poinciana, to which it is related. It is said to reach 40 or 50 feet in height. The pinnate leaves are 3 feet in length, and the brilliant scarlet, curiously shaped flowers are borne in drooping racemes more than a foot long. The tree was named for Sir Charles Colville, Governor of Mauritius; it was discovered in 1824 on the west coast of Madagascar, where it flowers in April or May.

In all probability it will stand no more frost than the poinciana. Like most other leguminous trees, it is readily propagated from seeds. Since it is not yet commonly cultivated in tropical America, it is recommended for trial in Porto Rico, Cuba, the Canal Zone, and elsewhere.

59677. *FICUS LACOR* Buch.-Ham. Moraceæ.

A tropical Asian fig which attains a height of 60 feet and appears to be of promise as a shade tree for the warmest parts of the United States. The small whitish fruits, a quarter of an inch thick, are in axillary pairs.

59678. *FIRMIANA COLORATA* (Roxb.) R. Br. (*Sterculia colorata* Roxb.). Sterculiaceæ.

The brilliant orange flowers of this Indian tree, appearing before the leaves, make it desirable as an ornamental tree for regions having very little frost.

59679. *HETEROPHRAGMA ADENOPHYLLUM* (DC.) Seem. Bignoniaceæ.

An ornamental African tree related to catalpa, but adapted for cultivation in subtropical regions only. It reaches a height of 30 to 50 feet, with large opposite, pinnate leaves and brownish yellow, woolly flowers in terminal panicles.

For previous introduction, see S. P. I. No. 52291.

59680. *HOLOPTELEA INTEGRIFOLIA* (Roxb.) Planch. Ulmaceæ.

A large, spreading tree, closely related to the elms, which grows in dry, sandy soils at low altitudes in northern and central India. Its chief use appears to be as a timber tree; the wood is yellowish gray and moderately hard and is used for general construction.

59672 to 59687—Continued.

59681. *MIMUSOPS ELENGI* L. Sapotaceæ.

A tall East Indian tree, 50 feet or less in height, with thick, shining leaves and edible, ovoid fruits an inch or less in length. The chief value of this tree is likely to be as an ornamental for southern Florida.

For previous introduction, see S. P. I. No. 51819.

59682. *PITHECOLOBIUM BIGEMINUM* (L.) Mart. Mimosaceæ.

The chief uses of this large Indian tree appear to be as timber and for native medicine, a decoction of the leaves being employed externally as a stimulant. The wood is dark colored and heavy.

59683. *PUTRANJIVA ROXBURGHII* Wall. Euphorbiaceæ.

A moderate-sized, evergreen, tropical Indian tree, with small, obtuse leaves and white, hairy fruits the size of a cherry. From the seeds is obtained an olive-brown oil used by the natives of India for burning. The hard, gray wood is used for making tools.

For previous introduction, see S. P. I. No. 52296.

59684. *SAPINDUS EMARGINATA* Vahl. Sapindaceæ.

A handsome tree from southern India, which is valued in its native country chiefly for the supposed medicinal virtues of the pulp of the small fleshy fruit.

59685. *SOYMIDA FEBRIFUGA* (Roxb.) Juss. Meliaceæ.

A tall, tropical tree, closely related to the mahogany, found throughout northwestern and southern India, where it is used for many purposes. The deep-red bark, according to Watt (Dictionary of the Economic Products of India), contains a valuable adhesive gum, is used for tanning, yields a strong fiber, and has been used medicinally as a substitute for Peruvian bark. The wood is heavier and stronger than the better known American mahogany and has many uses.

59686. *TERMINALIA BELLERICA* (Gaertn.) Roxb. Combretaceæ.

The small, round fruits of this handsome tropical Indian tree have been exported from India for tanning purposes under the name of myrobalans. The yellowish gray wood is used for general construction. The tree also has merit as a shade tree for avenues, with its huge, buttressed trunk and long horizontal branches.

59687. *TERMINALIA MUELLERI* Benth. Combretaceæ.

Some of the *Terminalias* have proved to be very attractive shade trees for subtropical regions. According to Benth (Flora Australiensis) this Australian species is a large tree, when grown under favorable conditions, with leathery leaves up to 8 inches long, loose spikes of small white flowers, and small, ovoid, blue fruits.

59688. *SACCHARUM OFFICINARUM* L. Poaceæ. Sugar cane.

From Taru Jabba, near Peshwar, India. Cuttings presented by Robertson Brown, Agricultural Officer, Northwest Frontier Province. Received May 23, 1924.

Assam Red. A variety which appears especially promising because of its vigor, earliness, and freedom from disease and the sugar-cane borer.

Introduced for sugar-cane specialists.

59689. *AVENA BARBATA WIESTII* (Steud.) Hausskn. Poaceæ. Oats.

From Giza, Egypt. Seeds presented by the director, horticultural section, Ministry of Agriculture. Received May 8, 1924.

An erect, cespitose, somewhat hairy annual grass about 3 feet in height, with very narrow leaves about 6 inches long. Native to Egypt and Arabia. Introduced for forage-crop specialists.

For previous introduction, see S. P. I. No. 53626.

59690. *COLOCASIA* sp. Araceæ.

From Buitenzorg, Java. Tubers presented by the director of the Botanic Garden. Received May 10, 1924.

The central corm of this relative of the dasheen is of excellent quality for eating.

Received as *C. monorrhiza*, for which a place of publication has not been found.

59691 to 59700.

From Lwow (Lemberg), Poland. Seeds presented by Walery Swederski, director, Station Expérimentale Botanique et Agricole. Received May 3, 1924.

59691. *ALLIUM SCHOENOPRASUM* L. Liliaceæ.

For previous introduction and description, see S. P. I. No. 59387.

Introduced for horticulturists investigating the food possibilities of the genus *Allium*.

59692. *ATROPA BELLADONNA* L. Solanaceæ.

Belladonna seeds introduced for the use of drug-plant specialists.

59693 to 59700.

A collection of native European plants introduced chiefly for forage-crop specialists for breeding and selection experiments.

59693. *AVENA PLANICULMIS* Schrad. Poaceæ. Grass.

A perennial Siberian grass which thrives in dry, open places, forming a thick turf. The numerous branches are about 4 inches long, and the coarse leaves are up to an inch in width.

59694. *AVENA VERSICOLOR* Vill. Poaceæ. Grass.

A perennial grass which forms a thick turf. The rhizome is short and creeping, with short runners. The stems are sometimes 2 feet in height. Native to rocky places in the Mediterranean countries.

59695. *FESTUCA ELATIOR APENNINA* (DeNot.) Hack. Poaceæ. Grass.

A perennial European grass which forms a loose turf, with stems 2 to 3 feet high, and bluish green leaves about a foot long.

59696. *FESTUCA RUBRA PICTA* (Kit.) Hack. Poaceæ. Grass.

A perennial Hungarian grass which occasionally forms a loose turf. The stems are about a foot high, with bristly leaves.

59697. *PINUS MONTANA PUMILIO* (Haenke) Willk. Pinaceæ. Pine.

A handsome, hardy, low, shrubby pine with ascending branches densely clothed with bright-green foliage. Before maturity the cone is usually violet-purple, becoming yellowish or dark brown when fully ripe. This form is native to the mountains of central Europe.

59691 to 59700—Continued.

59698. *POA VIOLACEA* Bell. Poaceæ. Grass.

An alpine perennial grass, found native only in the European Alps, with rhizomes forming a thick turf. The roughish stems are a foot or two in height, and the blue-green leaves terminate in long bristly points.

59699. *TRIFOLIUM PRATENSE FRIGIDUM* Aschers. and Graebn. Fabaceæ. Red clover.

A Hungarian variety of red clover which differs from the type chiefly in having smaller flower heads and obcordate leaflets in the lower leaves.

59700. *TRisetum CARPATICUM* (Host.) Roem. and Schult. Poaceæ. Grass.

A perennial grass, about a foot high, from the alpine and subalpine regions of central Europe. It is very similar to *Trisetum alpestre*, but has a wider creeping rhizome. The leaf-sheaths are often very bristly, and the leaves are about a quarter of an inch wide.

59701 to 59764.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1924. Notes by Mr. Rock.

59701. *ALLIUM* sp. Liliaceæ.

No. 11427. November, 1923. A plant from 2 to 3 feet tall found on the alpine meadows of the Likiang Snow Range between 12,000 and 13,000 feet altitude. The leaves are long-linear and the deep wine-colored flowers are in large umbels.

59702. *DELPHINIUM* sp. Ranunculaceæ.

No. 11435. November, 1923. A beautiful species which resembles very much *Delphinium likiangense*, but the plant is smaller. The large, blue flowers are bell-shaped. It was found growing in an alpine meadow of the Likiang Snow Range at an altitude of 14,000 feet.

59703. *DELPHINIUM* sp. Ranunculaceæ.

No. 11436. November, 1923. A large, handsome species 1 to 2 feet high found growing on limestone boulders at 12,500 feet altitude on the Ladsakodjo-Likiang Range. The steel-blue flowers are large and pubescent.

59704. *DELPHINIUM* sp. Ranunculaceæ.

No. 11438. November, 1923. A plant 2 to 3 feet high found along streams on the Likiang Snow Range at from 9,000 to 10,000 feet altitude. The leaves are broadly palmatisect, and the deep purple flowers are on long spikes.

59705. *DEUTZIA* sp. Hydrangeaceæ.

No. 11417. November, 1923. A small bush 5 to 8 feet high found on the Likiang Snow Range. The small leaves are oval elliptical and pubescent; the flowers are deep lavender purple and grow in small racemes.

59706. *PEDICULARIS* sp. Scrophulariaceæ.

No. 11442. November, 1923. A small plant 1 foot high found on alpine meadows of the Likiang Snow Range at 13,000 feet altitude. The leaves are of millefolium type, and the rich reddish purple flowers grow in spikes.

59707. *PHILADELPHUS* sp. Hydrangeaceæ.

No. 11445. November, 1923. A shrub 5 to 8 feet high found growing on the slopes of the Likiang Snow Range along the streams at from 9,000 to 10,000 feet altitude. This fine species has small leaves and fragrant white flowers.

59701 to 59764—Continued.

59708. *PIERIS* sp. Ericaceæ.

No. 11420. November, 1923. A handsome shrub from 5 to 6 feet high found growing in scrub forests of the Likiang Snow Range from 10,000 to 11,000 feet altitude. The small, oval-elliptical leaves are on red branchlets, and the white bell-shaped flowers are in short racemes.

59709. *PIERIS* sp. Ericaceæ.

No. 11431. November, 1923. A shrub 5 feet high found in scrub forests on the Likiang Snow Range at 10,000 feet altitude. The oval leaves are glabrous and rich green; the white flowers grow in spikes which protrude beyond the leaves.

59710. *PRIMULA FORRESTII* Balf. f. Primulaceæ. Primrose.

No. 11410. November, 1923. A perennial (50 to 100 years old) found in limestone crevices in the drier regions of the Likiang Snow Range at from 10,000 to 11,000 feet altitude. The deep-green crenate leaves have the fragrance of apples, and the flowers are deep golden yellow.

59711. *PRIMULA PINNATIFIDA* Franch. Primulaceæ. Primrose.

November, 1923. A plant 3 to 10 inches tall found in swampy alpine meadows on the Likiang Snow Range at from 14,000 to 15,000 feet altitude in company with *P. pseudosikkimensis* and *P. secundiflora*. The thin leaves are pinnatifid, and the bright-blue flowers are in spikes.

59712. *PRIMULA SEPTEMLOBA* Franch. Primulaceæ. Primrose.

No. 11439. November, 1923. A plant found in shady places on mossy banks in fir forests at Saba, Likiang Snow Range, at 11,000 feet altitude. The large flaccid leaves are irregularly lobed, and the large deep-red wine-colored flowers grow in small umbels.

59713 to 59762. *RHODODENDRON* spp. Ericaceæ.59713. *RHODODENDRON CHARTOPHYLLUM* Franch.

No. 11422. November, 1923. One of the finest species, found in a fir forest on the Likiang Snow Range at from 9,800 feet to 12,000 feet altitude. It is deciduous at flowering, and the large flowers are all shades from white to mauve, deep pink, and even blue smoke colored.

59714. *RHODODENDRON HELIOLEPIS* Franch.

Nos. 10943 (fruit), 8889 (flowers). November, 1923. A shrub or small tree from 5 to 15 feet high found in forests of fir and spruce on the Londjre Mountains at from 11,000 to 12,000 feet altitude. The oval leaves are brown beneath and punctate; the flowers are deep lavender purple.

59715. *RHODODENDRON HELIOLEPIS* Franch.

Nos. 11263 (fruit), 8419 (flowers). October, 1923. A shrub 6 to 10 feet high found in spruce forests on Mount Lanchun at from 11,000 to 12,000 feet altitude. The oval, acute leaves are brown punctate beneath, and the flowers are rich lavender purple.

59716. *RHODODENDRON LEPIDOTUM* Wall.

No. 11430. November, 1923. A shrub only a foot high found among rocks on the outskirts of pine forests on the Likiang Snow Range at from 9,000 to 10,000 feet altitude. The very small leaves are oval, and the flowers, on slender pedicels, are deep-red wine colored.

59701 to 59764—Continued.

59717. RHODODENDRON RACEMOSUM Franch.

Nos. 11403 (fruit), 8512 (flowers). November, 1923. A small shrub 2 to 3 feet high found on the alpine meadows of Saba, Likiang Snow Range, at 11,000 feet altitude. The small, elliptical-ovate leaves are pale beneath, and the deep-pink flowers smell like mint when crushed.

59718. RHODODENDRON RACEMOSUM Franch.

No. 11424. November, 1923. A small shrub 2 feet high found in pine forests on the Likiang Snow Range at from 10,000 to 11,000 feet altitude. The small oval leaves are pale beneath, and the pink flowers are fragrant.

59719. RHODODENDRON sp.

Nos. 10935 (fruit), 8878 (flowers). November, 1923. A shrub 2 feet high found on the alpine regions of Mount Londjre at from 12,000 to 13,000 feet altitude. The small elliptical leaves are brown beneath, and the flowers are small, tubular, and pink.

59720. RHODODENDRON sp.

Nos. 10941 (fruit), 10288 (flowers). November, 1923. A small shrub 2 feet high growing in masses on the alpine slopes of Mount Londjre. The leaves are elliptical and glabrous; the large flowers are bright crimson.

59721. RHODODENDRON sp.

Nos. 10942 (fruit), 8882 (flowers). November, 1923. A shrub or small tree 7 to 8 feet high found on the alpine slopes of Mount Londjre. The long, linear-lanceolate leaves are glabrous and the large flowers are deep lavender purple.

59722. RHODODENDRON sp.

Nos. 10944 (fruit), 8885 (flowers). November, 1923. A shrub 4 feet high found in forests on Mount Londjre at from 10,000 to 12,000 feet altitude. The oval-oblong leaves are golden yellow beneath, and the large flowers are deep purplish crimson.

59723. RHODODENDRON sp.

Nos. 10945 (fruit), 10287 (flowers). November, 1923. A small shrub 1 to 2 feet high found in the alpine regions of Mount Londjre at 12,000 feet altitude. The elliptic-lanceolate leaves are brown tomentose beneath. The large flowers are rich reddish purple.

59724. RHODODENDRON sp.

Nos. 10946 (fruit), 10264 (flowers). November, 1923. A shrub 3 feet high found on the alpine slopes of Mount Londjre at 12,000 feet altitude. The linear-elliptical leaves are deep chocolate brown beneath, and the large flowers are rich golden yellow.

59725. RHODODENDRON sp.

Nos. 10953 (fruit), 10283 (flowers). November, 1923. A small shrub 2 feet high found on the alpine slopes of Mount Londjre at 12,000 feet altitude. The elliptical leaves are glabrous and vary from green to brown; the deeply lobed flowers are yellow with a reddish tinge.

59726. RHODODENDRON sp.

Nos. 10954 (fruit), 9154 (flowers). November, 1923. A shrub 5 feet high found on the slopes of the Tsechung Mountains at 10,000 feet altitude. The oval leaves are glabrous, and the flowers are lavender purple.

59701 to 59764—Continued.

59727. RHODODENDRON sp.

Nos. 10955 (fruit), 9284 (flowers). November, 1923. A tree 18 to 20 feet high found on the slopes of the Tsechung Mountains, Mekong Valley, at 10,000 feet altitude. The very large leaves are oblong and grayish brown beneath; the large flowers are pale pink.

59728. RHODODENDRON sp.

Nos. 10956 (fruit), 9126 (flowers). November, 1923. A shrub 5 feet high found in the alpine regions of the Tsechung Mountains, Mekong Valley, at 13,000 feet altitude. The narrow leathery leaves have revolute margins and are covered with deep rufous wool beneath; the flowers are pink or whitish purple.

59729. RHODODENDRON SEMNUM Balf. f. and Forrest.

Nos. 10957 (fruit), 9138 (flowers). November, 1923. A small tree 8 to 10 feet high found in the alpine regions of the Tsechung Mountains, Mekong Valley, in fir forests at 13,000 feet altitude. The large, broadly oblong leaves are silvery brown beneath, and the large flowers are cream colored.

59730. RHODODENDRON sp.

Nos. 10958 (fruit), 8824 (flowers). November, 1923. A shrub or small tree 7 to 8 feet high found in the alpine regions of the Tsechung Mountains, Mekong Valley, at 13,000 feet altitude. The oval glabrous leaves are brownish beneath, and the flowers are pink, spotted with dark purple.

59731. RHODODENDRON sp.

Nos. 11021 (fruit), 8752 (flowers). October, 1923. A small tree 8 to 10 feet high found on the Sila Pass, Mekong-Salwin Divide, at 14,000 feet altitude. The linear-oblong leaves are dark green above and glabrous brown beneath; the flowers are rose red.

59732. RHODODENDRON sp.

Nos. 11088 (fruit), 9957 (flowers). November, 1923. A low bush only a few inches high found in alpine meadows on the Peima Mountains, Mekong-Yangtze Divide, at from 15,000 to 16,000 feet altitude. The minute leaves are one-fourth of an inch or less in length, and the flowers are blue.

59733. RHODODENDRON sp.

Nos. 11091 (fruit), 9266 (flowers). November, 1923. A woody plant only a few inches high found on the alpine slopes of the Peima Mountains, Mekong-Yangtze Divide, at from 15,000 to 16,000 feet altitude. The leaves are minute and covered beneath with a silky brown tomentum; the flowers are deep blue.

59734. RHODODENDRON sp.

Nos. 11093 (fruit), 9249 (flowers). November, 1923. A small shrub 12 inches high found in the alpine regions of the Peima Mountains, Mekong-Yangtze Divide, at 15,000 feet altitude. The very small leaves are oval and a silky brown beneath; the small flowers are rich yellow.

59735. RHODODENDRON sp.

Nos. 11094 (fruit), 9954 (flowers). November, 1923. A shrub 4 to 5 feet high found on the Peima Mountains, Mekong-Yangtze Divide, at 15,000 feet altitude. The ovate glabrous leaves are acute, and the flowers are white to pinkish, spotted purple.

59701 to 59764—Continued.

59736. RHODODENDRON sp.

Nos. 11096 (fruit), 9271 (flowers). November, 1923. A small tree 12 to 15 feet high found on the Peima Mountains at 14,000 feet altitude. The rich green leaves are covered with fawn tomentum beneath, and the large flowers of white spotted with purple are in large umbels.

59737. RHODODENDRON sp.

Nos. 11097 (fruit), 9241 (flowers). November, 1923. A shrub or small tree 10 feet high, found on the high alpine slopes on the Peima Mountains. The oval, acute leaves are densely matted beneath with yellowish white tomentum, and the flowers are pinkish spotted with purple.

59738. RHODODENDRON sp.

Nos. 11099 (fruit), 8864 (flowers). November, 1923. A small tree 8 to 10 feet high found on the alpine slopes of the Peima Mountains at from 14,000 to 15,000 feet altitude. The large obovate-oblong, acute leaves are brown beneath, and the large flowers are pale pink.

59739. RHODODENDRON sp.

Nos. 11117 (fruit), 9963 (flowers). November, 1923. A shrub 5 feet high found in the Peima Mountains, Mekong-Yangtze Divide, at 14,000 feet altitude. The linear-lanceolate leaves are covered with brown tomentum beneath, and the flowers are pink.

59740. RHODODENDRON sp.

Nos. 11118 (fruit), 9265 (flowers). November, 1923. A shrub 6 to 7 feet high found in the Peima Mountains at 14,000 feet altitude. The ovate, cordate leaves are covered with pale yellowish white matted tomentum; the flowers are white with the lobes of the petals purple.

59741. RHODODENDRON sp.

Nos. 11135 (fruit), 9262 (flowers). November, 1923. A small tree 12 to 15 feet high found in the Peima Mountains at from 14,000 to 15,000 feet altitude. The oblong, acute leaves are dark green with revolute margins and are densely matted beneath with brown tomentum; the flowers are white, spotted with purple.

59742. RHODODENDRON sp.

Nos. 11178 (fruit), 10167 (flowers). October, 1923. A low shrub 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at the Tibetan border. The cblong-elliptical leaves are tomentose beneath and the flowers are deep rich red.

59743. RHODODENDRON sp.

Nos. 11183 (fruit), 10258 (flowers). October, 1923. A low shrub 1 to 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at about 13,000 feet altitude. The small elliptical leaves are rich green above and golden-yellow tomentose beneath; the flowers are very dark carmine.

59744. RHODODENDRON sp.

Nos. 11186 (fruit), 10174 (flowers). October, 1923. A low shrub 2 feet high found on the Kenichunpu Mountains, Salwin-Irrawaddy Divide, Tibet. The small, elliptical, sessile leaves are acute at both ends, dark green above and covered with purplish black tomentum beneath; the flowers are rich yellowish red.

59745. RHODODENDRON sp.

Nos. 11191 (fruit), 10210 (flowers). October, 1923. A shrub 6 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, on the Tibetan border at 13,000 feet altitude. The ovate leaves are covered with a thin brown tomentum beneath, and the flowers are red.

59701 to 59764—Continued.

59746. RHODODENDRON sp.

Nos. 11203 (fruit), 10101 (flowers). October, 1923. A small shrub 1 foot high found on Mount Kenichunpu, Salwin-Irrawaddy Divide. The small, ovate-elliptical leaves are gray beneath, and the flowers are dark crimson.

59747. RHODODENDRON sp.

Nos. 11208 (fruit), 10171 (flowers). October, 1923. A shrub 1 to 2 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, Tibetan border, at 13,000 feet altitude. The small elliptical leaves are dark gray tomentose beneath, and the flowers are dark red.

59748. RHODODENDRON sp.

No. 11214. October, 1923. A shrub 2 to 3 feet high found on Mount Kenichunpu, Salwin-Irrawaddy Divide, at 13,000 feet altitude. The small elliptical leaves are glaucous beneath, and the flowers, which were not seen, may be red.

59749. RHODODENDRON sp.

Nos. 11254 (fruit), 8580 (flowers). October, 1923. A shrub 6 to 8 feet high found on rocky alpine regions on Mount Lautchun at 13,500 feet altitude. The large, oval-oblong leaves are covered with white matted tomentum beneath, and the large flowers are snow white.

59750. RHODODENDRON sp.

Nos. 11256 (fruit), 8403 (flowers). October, 1923. A small tree found on the slopes of Mount Lautchun at 10,000 feet altitude. The linear-oblong, green leaves are glabrous beneath, and the large flowers are purplish red.

59751. RHODODENDRON sp.

Nos. 11267 (fruit), 8407 (flowers). October, 1923. A small shrub 3 to 4 feet high found on Mount Lautchun at 8,000 feet altitude. The oval, glaucous leaves are glabrous beneath, and the rich pink flowers are on long pedicels.

59752. RHODODENDRON CRASSUM Franch.

Nos. 11276 (fruit), 9502 (flowers). October, 1923. A shrub 8 feet high found on Mount Shenzi at from 10,000 to 12,000 feet altitude. This is an extraordinary plant with dark green, oval-oblong acute leaves which are greenish brown punctate beneath; the fleshy tubular flowers are very large.

59753. RHODODENDRON sp.

Nos. 11290 (fruit), 8449 (flowers). October, 1923. A tree 25 to 30 feet high found on the Labako Mountains at 12,000 feet altitude. This remarkable tree has leaves which are very large, dark green and glossy above and deep brown woolly beneath; the flowers are white.

59754. RHODODENDRON sp.

Nos. 11379 (fruit), 8260 (flowers). November, 1923. A tree 20 feet high found on the mountains of Sungkwe, south of Likang, at 11,000 feet altitude. The broad, oblong leaves are faintly tomentose and greenish brown beneath; the flowers are white.

59755. RHODODENDRON sp.

Nos. 11382 (fruit), 8263 (flowers). November, 1923. A tree 20 feet high found on the Sungkwe Mountains south of Likang at 10,500 feet altitude. The ovate-acute leaves are a glossy dark green above and deep rufous woolly beneath. The flowers are pinkish white.

59701 to 59764—Continued.

59756. RHODODENDRON sp.

Nos. 11385 (fruit), 9185 (flowers). November, 1923. A shrub 7 to 8 feet high found on the alpine meadows of Litiping, Mekong-Yangtze Divide, at 12,000 feet altitude. The oval glabrous leaves are subcordate, and the pale pink flowers are slightly spotted.

59757. RHODODENDRON NIPHARGUM Balf. f. and Ward.

Nos. 11386 (fruit), 9174 (flowers). November, 1923. A shrub 10 feet high found in fir forests of Litiping, Mekong-Yangtze Divide, at 12,000 feet altitude. The oblong leaves are silvery beneath, and the flowers are deep rich pink.

59758. RHODODENDRON sp.

Nos. 11387 (fruit), 9186 (flowers). November, 1923. A shrub 7 to 8 feet high found in the mountains of Litiping, Mekong-Yangtze Divide, at 12,000 feet altitude. The oval leaves are glossy green and paler beneath; the flowers are bluish purple.

59759. RHODODENDRON GLISCHRUM Balf. f. and Smith.

Nos. 11388 (fruit), 9178 (flowers). November, 1923. A tree 15 to 18 feet high found in fir forests on the Litiping Mountains, Mekong-Yangtze Divide, at 12,000 feet altitude. The large leaves are rich green above; beneath they are brown hirsute as are also the petioles, inflorescence, and capsules; the flowers are rich pinkish purple.

59760. RHODODENDRON sp.

No. 11410. November, 1923. A small shrub 2 feet high found on the Sanhaitze Road on the rocky slopes of the Likiang Snow Range at an altitude of 11,000 feet. The small oval-elliptical leaves are whitish and punctate beneath; the flowers are pink.

59761. RHODODENDRON sp.

No. 11421. November, 1923. A shrub 8 feet high found on the alpine slopes of the Likiang Snow Range at from 13,000 to 14,000 feet altitude. The oval-oblong leaves are covered with fine brownish tomentum beneath, and the large flowers are pink.

59762. RHODODENDRON sp.

Seeds unaccompanied by notes.

59763. ROSCOEA sp. Zinziberaceæ.

No. 11443. November, 1923. A plant 1 to 2 feet high found in meadows and scrub forest on the drier slopes of the Likiang Snow Range at from 10,000 to 11,000 feet altitude. This handsome species has linear leaves and large yellow flowers.

59764. SAUSSUREA sp. Asteraceæ.

No. 11433. November, 1923. A curious plant found at 17,000 feet altitude among limestone rocks on the Likiang Snow Range. It has palmatisect leaves, and the oblong flower heads are covered and hidden with a cottony substance.

59765. CUCUMIS SATIVUS L. Cucurbitaceæ. Cucumber.

From Basingstoke, Hants, England. Seeds presented by G. W. Schroeder, Cedar Nurseries. Received May 24, 1924.

Butcher's "Disease Resister." Introduced for trial in comparison with the commonly cultivated American cucumbers.

59766. ASCLEPIAS SUBULATA Decaisne. Asclepiadaceæ.

From Bard, Calif. Seeds presented by Harry A. Gunning, Bureau of Plant Industry. Received June 5, 1924.

The milky juice of many milkweeds contains a small percentage of rubber, and this species has been secured for testing by rubber specialists. It is an erect perennial, native to northwestern Mexico, with very narrow, subulate leaves.

59767. UROCHLOA BRACHYURA Stapf. Poaceæ.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received June 5, 1924.

Introduced for forage-crop specialists.

An annual tufted grass, 4 feet or more in height, native to the eastern and western parts of South Africa. It is said to be the one grass most sought after by wild game and domestic animals of the regions where it grows.

59768. PHYLLOCARPUS SEPTENTRIONALIS Donn.-Smith. Cæsalpiniaceæ.

From the city of Guatemala, Guatemala. Seeds purchased through the American consul. Received May 26, 1924.

A handsome flowering tree of eastern Guatemala, where it occurs in the Motagua Valley at elevations of 1,000 to 2,000 feet. It is usually of spreading habit, up to 40 feet in height, with small, light-green, compound leaves, and small crimson-scarlet flowers, which are borne in great profusion during the latter part of the dry season, at which time the tree is deciduous. It is a striking thing when it is in full bloom and is worthy of trial throughout the Tropics. It is probably no more frost resistant than the royal poinciana. At Naples, Fla., plants several years old give promise of being successful.

For previous introduction, see S. P. I. No. 56906.

59769. ERYTHRINA MONOSPERMA Gaud. Fabaceæ.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, department of botany and forestry, experiment station of the Hawaiian Sugar-Planters' Association. Received May 24, 1924.

The *wiliwili* is a handsome tree of spreading habit which inhabits the dry regions of all of the islands of the Hawaiian Archipelago. According to J. F. Rock, in "The Leguminous Plants of Hawaii," it becomes 30 feet high, with a short trunk and thin, yellowish bark. A few prickles are scattered along the trunk and branches. The rounded heart-shaped leaflets are about 2 inches long, and the brick-red, orange, or pale-yellow flowers are in terminal clusters.

For previous introduction, see S. P. I. No. 54897.

59770 to 59774.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

59770 and 59771. HELIANTHUS ANNUUS L. Asteraceæ. Sunflower.

To be tested for seed production.

59770. From Gorbea, Chile.

59771. Light sulphur.

59770 to 59774—Continued.

59772 and 59773. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceæ. Six-rowed barley.

Collected for cereal-breeding experiments.

59774. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

Collected for testing as forage.

59775. *LANDOLPHIA SENEGALENSIS*
Kotschy and Peyr. Apocynaceæ.

From Jamaica, British West Indies. Cuttings presented by F. E. Betheuser. Received May 23, 1924.

A woody climber from the forests of Senegal, French West Africa, introduced for testing by rubber specialists.

59776. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ.

Common wheat.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

Collected for cereal-breeding experiments.

59777 to 59840.

From Seine, France. Plants purchased from Millet & Fils, Bourg-la-Reine. Received April 18, 1924.

Introduced for strawberry breeders.

59777 to 59829. *FRAGARIA* spp. Rosaceæ.
Strawberry.

59777. *Abondance*. Fruit large, intense red; flesh red, juicy, fragrant. A vigorous, very early variety. (*Rivoire Père & Fils catalogue*.)

59778. *Africa*. Fruit large, dark red. (*Millet & Fils catalogue*.)

59779. *Alphonse XIII*. Vigorous, drought resistant, and productive. Fruits large to very large, uniformly heart-shaped, scarlet; flesh firm, pink, juicy, of excellent flavor. Recommended for cultivation on a large scale. (*Vilmorin-Andrieux & Co. catalogue*.)

59780. *Ananas de Guéméné*. Seedling of a Chilean strawberry; a magnificent berry, rosy white, juicy, perfumed, late. (*J. M. Merrick, jr., The Strawberry, 1870, p. 63.*)

59781. *Avant-Toutes*. The earliest variety known to us; of unknown origin. Fruit small, dark red, and acid. (*Millet & Fils catalogue*.)

59782. *Aviateur Guynemer*. A noneverbearing variety with aromatic sugary flesh. Quality very good. (*La Pomologie Française, p. 164, 1924.*)

59783. *Barnes's Large White*. Plant moderately vigorous, thickset; fruits round or conical, blunt, white tinged with pink; flesh white, juicy, sugary, with musky flavor. Very productive. (*Robinson, Vegetable Garden, p. 681.*)

59784. *Belle Bordelaise*. A thickset, compact plant with rather long, often conical, fruits which ripen about the middle of June. (*Robinson, Vegetable Garden, p. 677.*)

59785. *Belle de Cours*. A vigorous, late-ripening variety; fruits numerous, dark red; flesh rosy white, firm, and sweet. (*Robinson, Vegetable Garden, p. 681.*)

59786. *Black Hautbois*. A seedling of the conical Hautbois, raised in 1815. Fruit conical, dark dingy purple; seeds little sunken; flesh buttery and high flavored. A great bearer, early. (*J. M. Merrick, jr., The Strawberry, 1870, p. 67-68.*)

59777 to 59840—Continued.

59787. *Centenaire*. Fruits very large, oblong, blunt, well colored, of good quality. Plant vigorous, thriving without special care. (*Vilmorin-Andrieux & Co. catalogue*.)

59788. *Cérés*. Fruit large, or very large, elongated conical, truncated; color deep red; flesh red, firm, sugary, and juicy. Plant vigorous and productive. A seedling of Haquin, which it surpasses. (*J. M. Merrick, jr., The Strawberry, 1870, p. 72.*)

59789. *Châtelaine de Grentheville*. Related to *Louis Gauthier*; almost as large and whiter. Flesh very sweet, fragrant. (*Millet & Fils catalogue*.)

59790. *Commandant Marchand*. Fruit elongated, with pinkish white, sweet flesh. (*Millet & Fils catalogue*.)

59791. *Délicatesse*. A very early variety with fruit of excellent quality. (*Millet & Fils catalogue*.)

59792. *Docteur Morère*. A very vigorous variety with very large, broad fruits which are deep red when ripe, with pink, sugary flesh resembling that of the Chilean strawberry in flavor. (*Robinson, Vegetable Garden, p. 683.*)

59793. *Duc de Malakoff*. Berries enormous, sometimes weighing 1½ ounces; variable, cockscombed, dull red; seeds prominent; flesh very juicy, and with a sort of mulberry flavor. Vigorous, moderately productive, and as hardy as any foreign kind. Said to be a cross of a Chilean variety and the British Queen. (*J. M. Merrick, jr., The Strawberry, 1870, p. 78.*)

59794. *Edouard Lefort*. A distinct, very early variety, very productive. Fruit large, shaped like the Hautbois strawberry, scarlet; flesh red, sweet, and juicy. (*Vilmorin-Andrieux & Co. catalogue*.)

59795. *Eléonore*. A late variety; fruit oblong, very dark red; flesh pale scarlet, not very juicy, but sugary and fragrant. (*Robinson, Vegetable Garden, p. 698.*)

59796. *France-Russie*. Fruit large, similar to that of Sharpless. (*Millet & Fils catalogue*.)

59797. *Général Chanzy*. Very vigorous; fruit usually very large and long, very dark red; flesh blood red, juicy, sugary. (*Robinson, Vegetable Garden, p. 685.*)

59798. *Général de Castelnau*. An everbearing, very productive variety. Fruit larger than that of *La Perle*, dark red, very juicy, sweet, and firm. (*Grandes Roseraies du Val de Loire catalogue*.)

59799. *Gloire du Mans*. Fruit very large, elongated, humpbacked. (*Millet & Fils catalogue*.)

59800. *Helvetia*. Fruit long; flesh white and melting, of good quality. (*Millet & Fils catalogue*.)

59801. *Jarles*. Fruit very large, of good quality. An improved *Docteur Morère*. (*Baetel Freres, 1919-20 catalogue*.)

59802. *Jeanne d'Arc*. An everbearing variety resembling *St. Joseph*, but more vigorous and with larger fruits. (*Robinson, Vegetable Garden, p. 702.*)

59803. *Jubilé*. Fruit large; flesh firm, sweet. A vigorous early variety. (*Rivoire Père & Fils catalogue*.)

59804. *L'Aurore*. Very early, with large round pink fruits of good quality. (*Millet & Fils catalogue*.)

59777 to 59840—Continued.

59805. *La Parisienne*. Fruits glossy red, very large, round, flattened, with ribs; flesh melting, sweet. (*Barbier & Co. catalogue.*)
59806. *La Brune*. Fruit very large, dark red, elongated, of delicious flavor; easily detached from the calyx. (*Millet & Fils catalogue.*)
59807. *Londres*. Fruits red, conical, the size of a small egg; flesh rosy, juicy, melting, acid-sweet. A very vigorous, late variety. (*Millet & Fils catalogue.*)
59808. *Madame Eugène Delannay*.
59809. *Madame Meslé*. A very vigorous giant variety with enormous brilliant vermilion-red fruits with pink flesh; a good commercial variety of large yield. Season medium. (*Millet & Fils catalogue.*)
59810. *Madame Moutot*. A giant variety, with enormous, spherical red fruits; flesh light salmon. Quality excellent. (*Millet & Fils catalogue.*)
59811. *Marguerite Lebreton*. A very early variety, with abundant elongated fruits. One of the best forcing varieties. (*Millet & Fils catalogue.*)
59812. *Marguerite Chabert*. Fruit conical, very large, dark red; flesh pink. (*Rivoire Père & Fils catalogue.*)
59813. *Merveille de Bon-Secours*. A cross between Saint-Antoine de Padoue and La Perle. Plants very vigorous, productive and hardy. Fruits large, conical, red; flesh juicy, perfumed, of excellent flavor. (*Vilmorin-Andrieux & Co. catalogue.*)
59814. *Merveille de Caen*. A highly recommended variety; everbearing, with excellent fruits. (*Millet & Fils catalogue.*)
59815. *Monsieur Scalarandis*. Fruits very large, round, with vinous, sweet, very juicy flesh. (*Millet & Fils catalogue.*)
59816. *Monstrueuse Caennaise*. A very vigorous, large-fruited variety, with highly colored fruit. (*Millet & Fils catalogue.*)
59817. *Monstrueuse Hautbois*. A variety with exceedingly large fruits, resembling the raspberry in flavor. Very productive. (*Millet & Fils catalogue.*)
59818. *Pain de Sucre*. Medium-sized plant, very productive. Fruit medium to large, elongated, becoming an inch and a half long, brilliant red; flesh firm, rosy, juicy, and sweet. (*Vilmorin-Andrieux & Co. catalogue.*)
59819. *Passe-Edouard*. An excellent variety, superior to Edouard Lefort. (*Millet & Fils catalogue.*)
59820. *Perle Rouge*. Fruits medium size, ovoid; flesh clear red, of first quality. (*La Vie Agricole et Rurale*, vol. 22, no. 17, April 28, 1923, p. 288.)
59821. *Potager de Versailles*. Fruits bright red, fan-shaped, of good quality. (*Millet & Fils catalogue.*)
59822. *Président Poincaré*. Fruit orange-red; flesh white. Everbearing. (*Millet & Fils catalogue.*)
59823. *Princesse Marie-Clotilde*. Plant vigorous. Fruit round, with firm flesh. (*Millet & Fils catalogue.*)
59824. *Reine Louise*. Fruit dark red, elongated. (*Millet & Fils catalogue.*)
59825. *Rêve d'Été*. An interesting, everbearing variety, with fruits of good quality. (*Millet & Fils catalogue.*)
59826. *Suavis*. A vigorous variety, fruits pinkish white, large. (*Millet & Fils catalogue.*)

59777 to 59840—Continued.

59827. *Sulpice Barbe*. An especially fine variety, with round, flattened fruits. (*Millet & Fils catalogue.*)

59828. *Sybel*. Vigorous; fruits elongated, red; flesh firm, vinous, of good quality. (*Millet & Fils catalogue.*)

59829. *Tardive de Léopold*. Fruits very large, spherical, wine red. Season very late. (*Millet & Fils catalogue.*)

59830 to 59840. RUBUS spp. Rosaceæ.

Raspberry.

59830. *All Summer*. Large crimson fruits of excellent quality, maturing in autumn. (*Barbier & Co. catalogue.*)

59831. *Colonel Wilder*. A variety with large, white, sweet, slightly acidulous fruits. (*Millet & Fils catalogue.*)

59832. *Congy*. Vigorous, with fine red fruits of excellent quality. (*Millet & Fils catalogue.*)

59833. *Couleur de Chair*. Fruits yellow, very large, with pinkish flesh. A good cropper. (*Barbier & Co. catalogue.*)

59834. *De Romainville*. A large red variety especially adapted for market purposes. (*Millet & Fils catalogue.*)

59835. *Feldbrunnen*. Fruit of enormous size, brilliant red, of exceptional quality. (*Millet & Fils catalogue.*)

59836. *Goliath*. A very vigorous grower, but of rather straggling habit; canes about 4 to 5 feet high; good cropper; berries fairly large, deep red, globular, having very large drupels, rather soft, of good flavor. Very great quantities of young vigorous canes are produced each season. (*Journal of the Royal Horticultural Society*, vol. 47, p. 47.)

59837. *Perpétuelle de Billard*. Fruits rather large, round, deep red; clusters long. Plants multiply rapidly.

59838. *Pilate*. Fruit red, large, elongated, moderately sweet. Quality good. (*Millet & Fils catalogue.*)

59839. *Souvenir de Désiré Bruneau*. A vigorous grower, rather straggling, canes about 4 feet high, a heavy cropper, berries large in large clusters, bluntly conical, firm, deep carmine, of good flavor. (*Journal of the Royal Horticultural Society*, vol. 47, p. 49.)

59840. *Sucrée de Metz*. Fruits clear yellow, large, of good quality. (*Barbier & Co. catalogue.*)

59841 to 59857. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceæ.
Soy bean.

From Omagari, Akita Ken, Japan. Seeds presented by Isaburo Nagai, director, Riku-U substation, Agricultural Experiment Station. Received May 15, 1924.

Introduced for soy-bean specialists.

59841. No. 1. *Nezumisaya*.

59842. No. 2. *Gizuka*.

59843. No. 3. *Sennari*.

59844. No. 4. *Tamazukuri*.

59845. No. 5. *Sohgetsu*.

59846. No. 6. *Fukui-shiro*.

59847. No. 7. *Shirohachikoku*.

59848. No. 8. *Akagara*.

59849. No. 9. *Enoki*.

59841 to 59857—Continued.

59850. No. 10. *Gowari*.
 59851. No. 11. *Sennari*.
 59852. No. 12. *Hadaka*.
 59853. No. 13. *Akasaya* (7).
 59854. No. 14. *Yagi* (3).
 59855. No. 15. *Takiya* (5).
 59856. No. 16. *Onihadaka*.
 59857. No. 17. *Dozan*.

59858 to 59933. IPOMOEA BATATAS (L.) Poir. Convolvulaceæ.**Sweet potato.**

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, Agronomist in Charge, Agricultural Experiment Station. Received March 4, 1924.

Introduced for testing by horticulturists experimenting with sweet-potato varieties.

Numbers 7 to 429 refer to seedlings grown at the station.

- | | |
|------------------------------|---------------------|
| 59858. No. 7. | 59888. No. 153. |
| 59859. No. 14. | 59889. No. 159. |
| 59860. No. 15. | 59890. No. 169. |
| 59861. No. 18. | 59891. No. 171. |
| 59862. No. 24. | 59892. No. 179. |
| 59863. No. 26. | 59893. No. 194. |
| 59864. No. 27. | 59894. No. 203. |
| 59865. No. 29. | 59895. No. 213. |
| 59866. No. 30. | 59896. No. 217. |
| 59867. No. 31. | 59897. No. 223. |
| 59868. No. 34. | 59898. No. 226. |
| 59869. No. 36. | 59899. No. 230. |
| 59870. No. 40. | 59900. No. 238. |
| 59871. No. 41. | 59901. No. 251. |
| 59872. No. 44. | 59902. No. 253. |
| 59873. No. 52. | 59903. No. 255. |
| 59874. No. 54. | 59904. No. 263. |
| 59875. No. 55. | 59905. No. 300. |
| 59876. No. 60. | 59906. No. 316. |
| 59877. No. 76. | 59907. No. 319. |
| 59878. No. 81. | 59908. No. 360. |
| 59879. No. 82. | 59909. No. 361. |
| 59880. No. 85. | 59910. No. 372. |
| 59881. No. 92. | 59911. No. 375. |
| 59882. No. 95. | 59912. No. 377. |
| 59883. No. 110. | 59913. No. 386. |
| 59884. No. 111. | 59914. No. 389. |
| 59885. No. 112. | 59915. No. 379. |
| 59886. No. 117. | 59916. No. 410. |
| 59887. No. 141. | 59917. No. 429. |
| 59918 to 59933. Pumpkin yam. | |
| 59918. Hill No. 1. | 59923. Hill No. 6. |
| 59919. Hill No. 2. | 59924. Hill No. 7. |
| 59920. Hill No. 3. | 59925. Hill No. 8. |
| 59921. Hill No. 4. | 59926. Hill No. 9. |
| 59922. Hill No. 5. | 59927. Hill No. 10. |

59858 to 59933—Continued.

- | | |
|---------------------|---------------------|
| 59928. Hill No. 11. | 59931. Hill No. 14. |
| 59929. Hill No. 12. | 59932. Hill No. 15. |
| 59930. Hill No. 13. | 59933. Mixed hills. |

59934 to 60167. ZEA MAYS L. Poaceæ. Corn.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 26, 1924. Notes by Messrs. Richey and Emerson.

59934 to 59936. El Verjel, Angol, Chile. March 17, 1924. Two ears, dark yellow flint, much mixed in type; from field. Ears 8 and 9 inches long; 12 rows of kernels each; nearly mature. Plants $5\frac{1}{2}$ to $6\frac{1}{2}$ feet high.

59934. No. 5. Mixed. 59936. No. 5b.

59935. No. 5a.

59937 to 59939. Towards "Los Alpes," near El Verjel, Angol, Chile. March 7, 1924. Two ears, light yellow flint; from field. Ears 8 inches long; 12 rows of kernels each. Possibly of Indian origin.

59937. No. 6. Mixed. 59939. No. 6b.

59938. No. 6a.

59940 to 59944. Northwest from Gorbea, Chile. March 12, 1924. Five ears of small-eared flint, yellow and white with occasional purple seeds. Bought from an Indian on the edge of town, plants not seen. Ears 5 to 7 inches long, mostly eight rows of kernels, but strongly inclined to be irregular.

59940. No. 7a. 59943. No. 7d.

59941. No. 7b. 59944. No. 7e.

59942. No. 7c.

59945 and 59946. South of Gorbea, from the farm of Francisco Huichalaf. March 13, 1924. Two ears of early Indian flint, yellow and white mixed, with a few blue seeds and some with pericarp pattern. Plants $4\frac{1}{2}$ to $5\frac{1}{2}$ feet tall, mature, and nearly dry 130 days after planting.

59945. No. 8a. 59946. No. 8b.

59947 to 59949. South of Gorbea, from the farm of Francisco Huichalaf. March 13, 1924. Two ears of yellow flint, probably not of Indian origin; from a different field from No. 8 [S. P. I. No. 59945]. Ears 6 to 8 inches long, 10 to 14 rows of kernels. Plants 6 to 7 feet high, mature but not dry.

59947. No. 9. Mixed. 59949. No. 9b.

59948. No. 9a.

59950 to 59952. Quitrantue, Chile. March 13, 1924. From the farm of Firmin Velasquez. Three ears taken from a braid. Probably the same as No. 8 [S. P. I. No. 59945].

59950. No. 10a. 59952. No. 10c.

59951. No. 10b.

59953 to 59957. From Juan Huenuhueque, near Curacautin, Chile. March 14, 1924. Five ears of flint maize. Corn already harvested. Plants about 4 feet high.

59953. No. 11a. 59956. No. 11d.

59954. No. 11b. 59957. No. 11e.

59955. No. 11c.

59958 to 59961. East of Curacautin, Chile. March 14, 1924. Four ears of yellow and white flint, some blue kernels. Ears 4 to 5 inches long. Frost in January killed a neighbor's corn, but this escaped. Corn already harvested.

59934 to 60167—Continued.

59958. No. 12a. 59960. No. 12c.
59959. No. 12b. 59961. No. 12d.
- 59962 to 59969. Curacautin, Chile. March 14, 1924. Seven ears of yellow and white flint with some blue seeds; from a farm. Ears 4 to 6 inches long, one ear with a variegated pericarp. Already harvested.
59962. No. 13. Mixed. 59967. No. 13e.
59963. No. 13a. 59968. No. 13f.
59964. No. 13b. 59969. No. 13g.
59965. No. 13c.
59966. No. 13d. Variegated pericarp.
59970. No. 14. La Paz, Bolivia. March 14, 1924. Bulk seed bought in the market.
59971. No. 15. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market. The various colored kernels are smaller than No. 14 [S. P. I. No. 59970].
59972. No. 16. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market; looks like Peruvian.
59973. No. 17. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market. Yellow flour with some speckling.
59974. No. 18. La Paz, Bolivia. March 24, 1924. Bulk seed bought in the market. Small-kernelled yellow dent, said to have been imported from Concepcion, Chile.
59975. No. 19. La Paz, Bolivia. March 24, 1924. Bulk seed bought in market. Yellow flour with some kernels having other colors; looks like Peruvian corn.
59976. No. 20. La Paz, Bolivia. March 24, 1924. Bulk seed bought in market. White flour; looks like Peruvian corn.
59977. No. 21. La Paz Valley. March 24, 1924. "*Maíz Negro Oscuro*." From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajes; altitude about 11,000 feet. Crop of 1922-23. Dark purple, nearly black. Purple cob. Ear $3\frac{1}{2}$ inches long with 12 rows of pointed kernels. Ear conical. Plants said to be $2\frac{1}{2}$ to 3 meters high, probably require about six months to mature.
59978. No. 22. La Paz Valley. March 24, 1924. From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajes; altitude about 11,000 feet. Crop of 1922-23. One ear yellow flint $2\frac{1}{2}$ inches long with irregular rows; seeds small; cob red. Plants said to be small and to require about four months to mature.
59979. No. 23. La Paz Valley. March 24, 1924. From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajes; altitude about 11,000 feet. Crop of 1922-23. One ear of white corn $3\frac{3}{4}$ inches long, with six to eight rows of large kernels. Said to require about six months to mature.
- 59980 and 59981. La Paz Valley. March 29, 1924. From Julie C. Patino, "Los Manzanos," Hacienda Calacota, about 4 miles below Obrajes; altitude about 11,000 feet. Crop of 1922-23. Two ears of white-rice pop corn about 4 inches long, said to have come originally from Copocabana.
59980. No. 24a. 59981. No. 24b.
59982. No. 25. La Paz, Bolivia. March 27, 1924. *Maíz Amarilla*. Altitude about 11,700 feet. Bulk seed presented by Luis Crespe. Contains some sweet-corn kernels. Plants said to be 7 to 9 feet tall and to require six months or more to mature.

59934 to 60167—Continued.

59983. No. 26. La Paz, Bolivia. March 27, 1924. *Maíz Morado*. Altitude 11,700 feet. Bulk seed presented by Luis Crespe. Crop of 1922-23. Plants said to be 7 to 9 feet tall and to require about six months or more to mature.
59984. No. 27. La Paz, Bolivia. March 27, 1924. *Maíz Gris*. Altitude 11,700 feet. Bulk seed presented by Luis Crespe. Of various colors and patterns. Crop of 1922-23. Plants said to be 7 to 9 feet tall and to require six months or over to mature.
- 59985 to 59987. March 29, 1924. From a farm about 7 miles below Obrajes, Bolivia; altitude about 11,000 feet. Three ears of small-seeded yellow flint. Ears about 3 inches long with red cobs. Crop of 1922-23. Said to be a short-season maize maturing in about four months.
59985. No. 28a. 59987. No. 28c.
59986. No. 28b.
- 59988 and 59989. March 29, 1924. From a farm about 7 miles below Obrajes, Bolivia; altitude about 11,000 feet. *Maíz Griz*. Two ears of various colors and patterns. Ears about 4 inches long with large seeds.
59988. No. 29a. 59989. No. 29b.
- 59990 and 59991. March 29, 1924. *Maíz Blanco*. From a farm about 7 miles below Obrajes, Bolivia; altitude 11,000 feet. This seed is from the same field as No. 29 [S. P. I. No. 59988-89].
59990. No. 30a. 59991. No. 30b.
- 59992 and 59993. March 29, 1924. *Maíz Rojo*. From a farm about 7 miles below Obrajes, Bolivia; altitude about 11,000 feet. From the same field as No. 29 [S. P. I. No. 59988-89].
59992. No. 31a. 59993. No. 31b.
59994. No. 32. La Paz, Bolivia. March 29, 1924. One ear $2\frac{1}{2}$ inches long with 12 rows of kernels which are white and yellow with a pink blush. The plants are of the purple type and grow 3 or 4 feet high, making a very thick stand on the poor soil of the American Institute.
59995. No. 33. March 29, 1924. One ear with very large seeds from an Indian field down the La Paz Valley about $5\frac{1}{2}$ miles below Obrajes, Bolivia. Altitude about 11,000 feet and soil very poor and stony.
- 59996 and 59997. La Paz, Bolivia. March 27, 1924. Two ears 4 inches long with 12 rows of large white kernels, grown on the grounds of the American Institute. Altitude 12,200 feet. Plants 4 to 5 feet tall; sun-red type.
59996. No. 34a. 59997. No. 34b.
- 59998 to 60000. La Paz, Bolivia. March 27, 1924. Three ears $2\frac{1}{2}$ inches long with 12 to 14 rows of white kernels. Grown in the garden of an Aymará Indian in poor soil on the north slope of a hillside; altitude 12,200 feet.
59998. No. 35a. 60000. No. 35c.
59999. No. 35b.
- 60001 to 60012. La Paz, Bolivia. March 27, 1924. Twelve ears 2 to 4 inches long with medium-sized kernels of various colors. The field belonged to an Aymará Indian; it was planted September 4, 1923, and just harvested.
60001. No. 36a. 60007. No. 36g.
60002. No. 36b. 60008. No. 36h.
60003. No. 36c. 60009. No. 36i.
60004. No. 36d. 60010. No. 36k.
60005. No. 36e. 60011. No. 36l.
60006. No. 36f. 60012. No. 36m.

59934 to 60167—Continued.

60013. No. 37. La Paz, Bolivia. March 31, 1924. One ear about 3 inches long with 12 rows of pink kernels and a purple cob. Grown in an Indian garden at 12,600 feet altitude.

60014 to 60018. La Paz, Bolivia. March 27, 1924. Five ears of red, yellow, and variegated flint. Ears about 2 inches long with 12 to 16 rows of small kernels. Grown in an Indian garden on a hillside, at about 12,600 feet altitude and said to mature in about four months.

60014. No. 38a. 60017. No. 38d.

60015. No. 38b. 60018. No. 38e.

60016. No. 38c.

60019. No. 40. Urco Mission, Calca, Peru. Bulk seed of native white corn. Large seeded, Cuzco type.

60020. No. 41. Urco Mission, Calca, Peru. Bulk seed of native yellow corn. Large seeded, Cuzco type.

60021. No. 42. Urco Mission, Calca, Peru. Bulk seed of native red corn. Large seeded, Cuzco type.

60022. No. 43. Urco Mission, Calca, Peru. Native variegated corn. Bulk seed, large seeded of the Cuzco type.

60023. No. 44. Urco Mission, Calca, Peru. Corn from the United States grown at the mission for six generations. Said to have been a yellow flint originally, and Mr. Payne thinks the chances of crossing with local corn are negligible.

60024. No. 45. Urco Mission, Calca, Peru. Seed obtained by crossing the native yellow corn of the Cuzco type and Reid Yellow Dent. This corn represents the fifth and sixth generation of the cross grown at Calca.

60025. No. 46. Urco Mission, Calca, Peru. Seed obtained by crossing the native yellow corn of the Cuzco type and Leaming. This corn represents the fifth or sixth generation of the cross grown at Calca.

60026. No. 47. Urco Mission, Calca, Peru. Seed obtained by crossing the native yellow corn of the Cuzco type and some unknown sort of yellow dent from the United States. This corn represents the fifth or sixth generation of the cross grown at Calca.

60027. No. 48. Urco Mission, Calca, Peru. Seed obtained by crossing a native yellow corn of the Cuzco type and a yellow flint from the Dakotas, possibly Gehu. This corn represents the fifth or sixth generation of the cross grown at Calca.

60028 and 60029. Urco Mission, Calca, Peru. Two ears of large-seeded speckled corn of the Cuzco type. Said to be quite early.

60028. No. 52a. 60029. No. 52b.

60030. No. 54. Urco Mission, Calca, Peru. Ear of large-seeded black corn. Stalks said to be very sweet. Pericarp deep red, aleurone colorless.

60031. No. 55. Urco Mission, Calca, Peru. Ear of large-seeded white (Ivory) corn.

60032 to 60075. Urco Mission, Calca, Peru. Forty-three ears of higher altitude maize, grown at from 12,000 to 12,500 feet. These represent the earliest types in the vicinity. Ears of various colors.

60032. No. 56. Mixed. 60036. No. 56d.

60033. No. 56a. 60037. No. 56e.

60034. No. 56b. 60038. No. 56f.

60035. No. 56c. 60039. No. 56g.

59934 to 60167—Continued.

60040. No. 56h. 60058. No. 56aa.

60041. No. 56i. 60059. No. 56ab.

60042. No. 56k. 60060. No. 56ac.

60043. No. 56l. 60061. No. 56ad.

60044. No. 56m. 60062. No. 56ae.

60045. No. 56n. 60063. No. 56af.

60046. No. 56o. 60064. No. 56ag.

60047. No. 56p. 60065. No. 56ah.

60048. No. 56q. 60066. No. 56ai.

60049. No. 56r. 60067. No. 56ak.

60050. No. 56s. 60068. No. 56al.

60051. No. 56t. 60069. No. 56am.

60052. No. 56u. 60070. No. 56an.

60053. No. 56v. 60071. No. 56ao.

60054. No. 56w. 60072. No. 56ap.

60055. No. 56x. 60073. No. 56aq.

60056. No. 56y. 60074. No. 56ar.

60057. No. 56z. 60075. No. 56as.

60076 and 60077. Ollantaytambo, Peru. April 10, 1924. Two ears of corn, one yellow with the pericarp reddish toward the tips of the seeds and the other with cherry pericarp. Plants about 4 to 5 feet high; collected at an altitude of 7,000 feet.

60076. No. 57a. Yellow.

60077. No. 57b. Cherry.

60078. No. 58. Sicuani, Peru. April 12, 1924. Bulk seeds from an Indian market. Various colors, mostly red and purple. Crop of 1922-23. Said to have been grown at Arequipa, Peru, at 7,500 feet altitude.

60079. No. 59. Sicuani, Peru. April 12, 1924. Bulk seeds from the Indian market. Various colors, mostly yellow. Crop of 1922-23. Said to be locally grown at 11,659 feet altitude.

60080. No. 60. Sicuani, Peru. April 12, 1924. Bulk seeds from store, mostly yellow. Crop of 1922-23. Said to have been grown at Paucartambo, near Cuzco, Peru.

60081 to 60085. Sicuani, Peru. April 12, 1924. Five ears of red and yellow flint corn grown on a farm south of Sicuani at 11,650 feet altitude.

60081. No. 61a. 60084. No. 61d.

60082. No. 61b. 60085. No. 61e.

60083. No. 61c.

60086 to 60095. Sicuani, Peru. April 12, 1924. Ten ears of various colors grown on a farm north of Sicuani at 11,650 feet altitude.

60086. No. 62a. 60091. No. 62f.

60087. No. 62b. 60092. No. 62g.

60088. No. 62c. 60093. No. 62h.

60089. No. 62d. 60094. No. 62i.

60090. No. 62e. 60095. No. 62k.

60096 to 60099. Sicuani, Peru. April 12, 1924. Four ears of various colors and mixed type grown on the farm of a Quechua Indian northeast of Sicuani. The seeds from which this crop was grown came from Cuzco.

60096. No. 63a. 60098. No. 63c.

60097. No. 63b. 60099. No. 63d.

59934 to 60167—Continued.

60100 to 60103. Sicuani, Peru. April 12, 1924. Four ears of corn bought in an Indian market and said to have come from Cusipata, Peru.

60100. No. 64a. 60102. No. 64c.

60101. No. 64b. 60103. No. 64d.

60104 to 60106. Sicuani, Peru. April 12, 1924. Three ears, red and yellow, bought in an Indian market; said to have been grown locally.

60104. No. 65a. 60106. No. 65c.

60105. No. 65b.

60107 to 60115. Sicuani, Peru. April 12, 1924. Nine ears bought in an Indian market, said to have been grown near San Pabla.

60107. No. 66a. 60112. No. 66f.

60108. No. 66b. 60113. No. 66g.

60109. No. 66c. 60114. No. 66h.

60110. No. 66d. 60115. No. 66i.

60111. No. 66e.

60116 to 60120. Sicuani, Peru. April 12, 1924. Five ears from an Indian market, said to have come from Asomayo, Peru, 4 leagues west of Chuquicahuana.

60116. No. 67a. 60119. No. 67d.

60117. No. 67b. 60120. No. 67e.

60118. No. 67c.

60121 to 60123. Cuzco, Peru. April, 1924. Two ears of sweet corn and one ear of mixed sweet and flour corn from Sr. Ochoa.

60121. No. 68a. 60123. No. 68c.

60122. No. 68b.

60124 to 60127. Cuzco, Peru. April, 1924. Four ears of white and colored corn from Sr. Ochoa.

60124. No. 69a. 60126. No. 69c.

60125. No. 69b. 60127. No. 69d.

60128. No. 70. Near Arequipa, Peru. April, 1924. *Chicha maize*. From Elias C. Bedregal. Seeds very large, red and purple. Matures in about six months. Altitude 7,000 feet.

60129. No. 71. Arequipa, Peru. April, 1924. *Chulpe maize*. From Elias C. Bedregal. This type is boiled and then dried. Seeds medium size, yellow, some are wrinkled (sugar type). Requires about seven months to mature.

60130. No. 72. Arequipa, Peru. April, 1924. *Amarillo maize*. From Elias C. Bedregal. Seeds intermediate in size between those of No. 70 (S. P. I. No. 60128) and No. 71 (S. P. I. No. 60129). The mixture of nonyellow seeds in this sample is said to be artificial.

60131. No. 73. Calea, Peru. April, 1924. Cuzco type, yellow-dent cross F-51, from T. E. Payne.

60132 to 60136. Huancayo, Peru. April 27, 1924. Five ears of red variegated maize, purchased in the Indian market and said to have come from within a few miles of town; altitude 10,700 feet.

60132. No. 74a. 60135. No. 74d.

60133. No. 74b. 60136. No. 74e.

60134. No. 74c.

60137. No. 75. Huancayo, Peru. April 27, 1924. Six ears of yellow, rice-pointed pop corn, bought in an Indian market. Said to have come from within a few miles of town; altitude 10,700 feet.

60138. No. 76. Huancayo, Peru. April 27, 1924. White maize. Bulk seeds from the Indian market, said to have been grown within a few miles of town; altitude 10,700 feet.

59934 to 60167—Continued.

60139 to 60143. Huancayo, Peru. April 27, 1924. Five ears of brown maize (one with red cob) bought in the Indian market.

60139. No. 77a. 60142. No. 77d.

60140. No. 77b. 60143. No. 77e.

60141. No. 77c.

60144 to 60151. Huancayo, Peru. April 27, 1924. Eight ears of red, purple, and rose-colored maize. From the Indian market.

60144. No. 78a. 60148. No. 78e.

60145. No. 78b. 60149. No. 78f.

60146. No. 78c. 60150. No. 78g.

60147. No. 78d. 60151. No. 78h.

60152. No. 79. Huancayo, Peru. April 27, 1924. Bulk seed of purple maize from the Indian market. Said to have been grown a few miles from town; altitude 10,700 feet.

60153 to 60158. Huancayo, Peru. April 27, 1924. Four ears, white, splashed with purple. One with rose-colored bands around kernels. Bought in the Indian market and said to have come from within a few miles of town; altitude 10,700 feet.

60153. No. 80a. 60155. No. 80c.

60154. No. 80b. 60158. No. 80d.

60157 and 60158. Lima, Peru. April, 1924. Two ears of yellow maize from Escuela Nacional de Agricultura. Grown locally.

60157. No. 81a. 60158. No. 81b.

60159 and 60160. Lima, Peru. April, 1924. Yellow maize. Two ears, one with purple cob from Escuela Nacional de Agricultura. Grown locally.

60159. No. 82a. 60160. No. 82b.

60161 and 60162. Lima, Peru. April, 1924. Purple maize. Two ears bought in a store. Said to have come from Arequipa, Peru.

60161. No. 83a. 60162. No. 83b.

60163 and 60164. Atucha, Province of Buenos Aires, Argentina, April, 1924. *Pinmontes* flint, two ears.

60163. No. 84a. 60164. No. 84b.

60165 and 60166. Casilda, Argentina. April, 1924. *Colorado Casilda* from Escuela Nacional de Agricultura.

60165. No. 85a. 60166. No. 85b.

60167. No. 86. Pontant, Province of Buenos Aires, Argentina. April, 1924. *Quaranton* maize from the experimental farm. Bulk sample.

60168 and 60169. ORNITHOGALUM THYRSOIDES Jacq. Liliaceæ.

From Pretoria, Transvaal, Union of South Africa. Bulbs presented by I. B. Pole Evans, chief, Division of Botany. Received May 26, 1924.

In South Africa, where this bulbous ornamental is native, it is known as one of the "chinkerichees." The globose bulb is about 2 inches thick, and the five or six very narrow leaves are 6 inches to a foot in length. The flowers, sometimes an inch long under cultivation, are borne in rather dense racemes on a scape about a foot high. In a dried condition these make excellent "everlasting flowers."

60168. A pure-white variety.

60169. A black-eye variety.

60170. CRACCA CANDIDA (DC.) Kuntze
(*Tephrosia candida* DC.). **Fabaceæ.**

From Dominica, British West Indies. Seeds presented by the Botanic Gardens, Dominica, through Alfred Keys, Bureau of Plant Industry. Received May 21, 1924.

The large terminal and lateral clusters of reddish or white flowers of this low Himalayan shrub make it worthy of trial as an ornamental in the warmer parts of the United States. The branches are slender and covered with a velvety pubescence, while the smooth green leaves, 6 to 8 inches long, have gray-silky lower surfaces.

For previous introduction, see S. P. I. No. 55678.

60171. NEPHELIUM MUTABILE Blume.
Sapindaceæ. Pulasan.

From Buitenzorg, Java. Seeds presented by P. J. S. Cramer, director, General Experiment Station, Department of Agriculture. Received June 5, 1924.

The pulasan is closely related to the lychee and is native to the Malayan region. It is tropical in its requirements and will probably not succeed in the United States; it merits cultivation, however, in Porto Rico, the Canal Zone, and elsewhere.

The tree attains a height of about 30 feet; the leaves are compound, with two to four pairs of oblong to elliptic, acuminate leaflets 5 to 10 inches long. The red fruit, commonly borne in small clusters, is about the size of a walnut; the pericarp is thick and covered with short, blunt, stout fleshy spines. The flesh (properly the aril) is translucent, whitish, juicy, and of sweet, slightly acidulous flavor; it contains a single oblong seed of large size.

For previous introduction, see S. P. I. No. 56781.

60172 to 60174.

From Stavanger, Norway. Plants presented by Thoralf Bryne, Brynes Rosen-Og Planteskole. Received June 3, 1924.

Introduced for horticulturists engaged in small-fruit breeding.

60172. RIBES sp. Grossulariaceæ.

Studenken au Lorgus. This is my new hybrid red currant; it is a very late variety with long trusses and is chiefly adapted for preserves. (Bryne.)

60173. RUBUS sp. Rosaceæ. Raspberry.

Paradise berry. A large red raspberry, almost as large as the largest variety known in cultivation, which is the English variety "The Royal." (Bryne.)

For previous introduction, see S. P. I. No. 56145.

60174. RUBUS sp. Rosaceæ. Raspberry.

An unnamed Norwegian raspberry.

60175 to 60184. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). **Fabaceæ.**
Soy bean.

From Pyengyang, Chosen. Seeds presented by D. N. Lutz. Received May 26, 1924. Notes by Mr. Lutz.

Introduced for soy-bean specialists.

60175. No. 1. Small Yellow. Used for bean sprouts; yield small.

60176. No. 2. May be the same as No. 1 [S. P. I. No. 60175]. Used for bean sprouts; yield small.

60177. No. 3. Small Black ("Rat Eye"). Used for bean sprouts and said to be used as medicine; yield small.

60178. No. 4. Green. Used for bean sprouts; yield fairly good.

60175 to 60184—Continued.

60179. No. 5. Small Black ("Rat Eye"). May be the same as No. 3 [S. P. I. No. 60177]. Used for bean sprouts and said to be used as medicine. Yield and plants small.

60180. No. 6. Medium Yellow. Most widely grown type in Chosen. High yield. Used for stock feed and for making bean sauce "soy." Cheaper than other varieties.

60181. No. 7. Black Medium. Not widely grown and of rather low yield. Used roasted as human food.

60182. No. 8. Large Yellow. A widely-grown variety of high yield. Used for human food; also fed to stock.

60183. No. 9. Brown. A rather rare variety. The sample as purchased was mixed with black beans.

60184. No. 9a. Mixed.

60185 to 60187. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). **Fabaceæ.**
Soy bean.

From Sapporo, Japan. Seeds presented by K. Abiko, agronomist, Hokkaido Agricultural Experiment Station. Received May 31, 1924. Notes by Mr. Abiko.

Introduced for soy-bean specialists.

60185. Aotairu. Used as meal and for green manure.

60186. Ohyachi. Used in industry and as food.

60187. Tsurunoko. Used in industry and as food.

60188. ANEMONE JAPONICA (Thunb.)
Sieb. and Zucc. Ranunculaceæ.
Japanese anemone.

From Stuttgart, Germany. Plants purchased from Wilhelm Pfitzer. Received May 31, 1924.

Var. *Schneekönigin*. This new anemone variety, originated by Mr. Pfitzer, may be described in general as an improved Luise Uhink, according to Möllers Deutsche Gärtner-Zeitung for November 1, 1923. The snow-white flowers, about 4 inches across, are produced more freely and on more upright stems than those of Luise Uhink and are made intensely striking by the dark-green background of the handsome foliage.

60189. INCARVILLEA DELAVAYI Bur.
and Franch. Bignoniaceæ.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received November 8, 1923. Numbered June, 1924.

Var. *Przewalskii*. A handsome hardy Chinese perennial plant with attractive pinnate foliage and showy yellow flowers. It is said to thrive best in a light, sandy loam, with plenty of sunshine.

60190 to 60200. HIBISCUS CANNABINUS
L. Malvaceæ. Ambari hemp.

From New York City. Seeds presented by Charles O. Tappan. Received May 24, 1924. Notes by Mr. Tappan.

A collection of varieties grown in India and Brazil for cordage, introduced for specialists experimenting with fiber plants.

60190 to 60197. From the Imperial Economic Botanist, Pusa.

60190. No. 1. **60193. No. 4.**

60191. No. 2. **60194. No. 5.**

60192. No. 3. **60195. No. 6.**

60190 to 60200—Continued.

60196. No. 7.

60197. No. 8.

60198 and 60199. From Gogu, Circars, Coimbatore Experimental Farm, India.

60198. No. 1.

60199. No. 2.

60200. From Brazil.

60201. ESENBECKIA LEIOCARPA Engl. Rutaceæ.

From Brazil. Seeds presented by F. L. Rhodes, American Telephone & Telegraph Co., New York City. Received May 7, 1924.

An erect, medium-sized tree from the forests of southeastern Brazil. The straight trunk is often branchless for a considerable height from the ground, a characteristic which suggests its use as pole timber. In Brazil the clear yellow wood is used for railway ties and for general construction. Coming from the cooler parts of Brazil, this tree might succeed in the southern portion of the United States.

60202 and 60203. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Fukuoka, Japan. Seeds presented by Dr. Mitsunaga Fujioka, Kyushu Imperial University. Received May 15, 1924.

Locally developed varieties introduced for soy-bean specialists.

60202. *Hakkoku*. 60203. *Toppa*.

60204 to 60207.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received May 15, 1924. Notes by Mr. Rock.

60204 and 60205. HORDEUM spp. Poaceæ. Six-rowed barley.

Garthok, eastern Tibet, February, 1924. The two best grades of barley from the high plateau of eastern Tibet, where they grow at an altitude of 10,000 feet or more.

60204. HORDEUM VULGARE COELESTE L.

Grade 1. This barley sheds its hull with the awn; the latter does not break off, leaving the hull attached, as is the case with American barley. The grain is large and pure white. This grade is probably adapted to the uplands of the central western part of the United States.

60205. HORDEUM VULGARE COELESTE L.

Grade 2. A black barley from the same region as grade 1 [S. P. I. No. 60204].

60206. RHODODENDRON sp. Ericaceæ.

No. 11324. November, 1923. A shrub 6 feet high found on the slopes of Mount Peima, Mekong-Yangtze Divide, at 14,000 feet altitude. The elliptical-oblong leaves are covered with soft pale-brown tomentum; the flowers were not seen.

60207. RHODODENDRON ARALIAEFORME Balf. f. and Forrest. Ericaceæ.

Nos. 11326 (fruit), 9269 (flowers). November, 1923. A shrub 8 feet high found on the alpine slopes of Mount Peima at 13,000 feet altitude. The oval leaves are rounded at both ends, golden yellow beneath, and glabrous; the flowers are rich purplish pink.

60208 to 60217. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Tottori, Japan. Seeds presented by Prof. Akio Kikuchi, College of Agriculture. Received May 16, 1924.

Introduced for soy-bean specialists.

60208. No. 1. *Shakkinnashi*.60209. No. 2. *Ichireu*.60210. No. 3. *Mejiro*.60211. No. 4. *Tamazukuri*.60212. No. 5. *Omokage*.60213. No. 6. *Tamanishiki*.60214. No. 7. *Kuromame*.60215. No. 8. *Uzura-daizu*.60216. No. 9. *Natsu-daizu*.60217. No. 10. *Natsu-cha-caizu*.

60218 to 60224.

From Minchow, Kansu, China. Seeds presented by W. N. Ruhl. Received May 17, 1924. Notes by Mr. Ruhl.

60218. BRASSICA sp. Brassicaceæ.

No. 2. Oil from seeds used for cooking and illuminating.

60219. BRASSICA sp. Brassicaceæ.

No. 3. Grown extensively in southwestern Kansu. Oil is extracted from the seeds.

60220. GLEDITSIA SINENSIS Lam. Cæsalpinia-cæ.

No. 8. The pods are used as a soap substitute.

60221. LACTUCA SATIVA L. Cichoriaceæ. Lettuce.

No. 1. This variety grows to a height of 12 to 20 inches. The stalks and not the leaves are eaten. When creamed they are very palatable.

60222. PEUCEDANUM DECURSIVUM (Miquel) Maxim. Apiaceæ.

No. 6. *Tan Kwei* (Dan Gwey). An aromatic plant extensively cultivated in this section. The roots, the part used, are dug in late October.

60223. RHEUM OFFICINALE Baill. Polygonaceæ.

No. 7. This is the medicinal rhubarb, found all over Kansu. The roots are used medicinally, and sometimes the stalks are eaten.

60224. RHUS VERNICIFLUA Stokes (R. vernicifera DC.). Anacardiaceæ.

No. 4. The sap of this tree, when properly prepared, makes a very good varnish with a hard, lacquerlike finish.

60225. AGAVE sp. Amaryllidaceæ.

From Algiers, Algeria. Seeds presented by Dr. A. Trabut, Algiers, through L. H. Dewey, Bureau of Plant Industry. Received May 17, 1924.

These are seeds of an agave hybrid sent to me by Doctor Trabut. I believe that Doctor Trabut made this cross about 1908. The staminate parent was the sisal, *Agave sisalina*, and the pistillate plant was an undetermined species which he had received from San Luis Potosi, Mexico. His object in making the cross was to obtain a plant more resistant to cold than the sisal and yet having the thin straight leaves producing fiber similar to that of sisal. He has developed some varieties by selection from the numerous variations resulting from the cross, but thus far none are cultivated commercially for fiber production in Algeria. (Dewey.)

60226 to 60230. ALLIUM spp. Liliaceæ.

From Stockholm, Sweden. Seeds presented by Dr. Robert E. Fries, director, Botanical Garden. Received May 17, 1924.

Introduced for horticulturists studying the food value of wild species of Allium.

60226. ALLIUM FISTULOSUM L. Welsh onion.

A Siberian species which differs from the common onion in having no distinct bulb, but only an enlarged base or crown; the leaves are usually more clustered.

For previous introduction, see S. P. I. No. 58679.

60227. ALLIUM HYMENORRHIZUM Ledeb.

A perennial moisture-loving Russian species with linear leaves and purplish violet flowers.

60228. ALLIUM KARATAVIENSE Regel.

An herbaceous plant with very broad, ovate-oblong, flat leaves and pink flowers borne in dense, convex umbels. The scapes are about 6 inches high. Native to Turkestan.

For previous introduction, see S. P. I. No. 58874.

60229. ALLIUM ODORUM L.

This onion, which grows wild in Europe, is cultivated in Japan for its leaves, which are eaten as greens; in the spring the leaves are borne luxuriantly by the old bulbs, becoming about a foot in length.

For previous introduction, see S. P. I. No. 58879.

60230. ALLIUM POLYPHYLLUM Kar. and Kir.

A Siberian species, 1 to 2 feet high, with flat, linear leaves and rose-colored flowers.

60231. PHORMIUM TENAX Forst. Liliaceæ. New Zealand flax.

From Palmerston North, New Zealand. Seeds presented by G. Smerle, Palmerston North, through L. H. Dewey, Bureau of Plant Industry. Received May 17, 1924.

According to Mr. Smerle these seeds were collected from tall varieties cultivated near Palmerston North, and he recommends that an attempt be made to grow this tall form in the southern part of the United States. (Dewey.)

60232 to 60241. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Meguro, near Tokyo, Japan. Seeds presented by Dr. H. Shirasawa, director, Forest Experiment Station. Received May 19, 1924.

A collection of locally developed varieties introduced from Japan for department soy-bean specialists.

- | | |
|-------------------|---------------------|
| 60232. Ao-Daizzu. | 60237. Kurakake. |
| 60233. Ao-Gozen. | 60238. Kuro-Daizu. |
| 60234. Goha. | 60239. Oilan. |
| 60235. Hokkado. | 60240. Shiro-Gozen. |
| 60236. Kimusume. | 60241. Soden. |

60242. RUBUS TURQUINENSIS Rydb. Rosaceæ.

From Santiago de las Vegas, Cuba. Seeds presented by Gonzalo M. Fortun, director, Estación Experimental Agronómica. Received May 21, 1924.

A Cuban species which grows to a height of about 5 feet; the entire plant is densely hairy and armed with curved prickles about a quarter of an

inch long. The leaves are dark green, and the small berries are about half an inch in length. Introduced primarily for use in small-fruit breeding experiments.

60243 to 60251.

From Yih sien, Shantung, China. Seeds presented by K. M. Gordon, South Shantung Industrial School. Received May 21, 1924. Notes by Mr. Gordon.

Introduced for soy-bean specialists.

60243 to 60250. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

60243. Big Green bean. Pods large, green; ripens in 90 to 100 days; grows 3 feet or more tall; oil content small. Used largely as a vegetable, both green and dried; can be roasted like peanuts. Vines coarse, not good for hay.

60244. Big White pod. Habit upright; pods white; ripens in 75 to 80 days; good bearer. Produces good oil and bean curd; used extensively for human and animal food; can be ground wet or dry.

60245. Black bean. Habit upright; pods black; ripens in 80 days; good bearer. Used extensively for stock feed, not used for oil because of dark color; ground wet, dry, or cooked.

60246. Black-Haired Yellow bean. Habit upright; pods dark, covered with black hairs; ripens in 80 days, good bearer, three to four beans to each pod; produces good oil and bean curd; can be ground wet, dry, or cooked. One of the best varieties in this district.

60247. Ch'a Tou. Habit upright; pods black, beans dark green; ripens in 80 days. Not used for oil, makes a stiff bean curd; ground with water and fed to animals.

60248. Hua Ch'a tou. Habit upright; pods dark colored, seeds varicose; ripens in 80 days, good bearer. Used extensively for stock feed and somewhat as human food.

60249. Pai Chia K'e tzu. Habit upright; pods small, white; ripens in 70 to 80 days; oil content high, makes good bean curd. Used extensively for human food and as stock feed. This is considered the best soy bean of this district.

60250. Ping Niu Huang. Habit upright; pods black; ripens in 90 days; oil content high, makes good bean curd. Used extensively for animal and human food.

60251. VIGNA SINENSIS (Torner) Savi. Fabaceæ. Cowpea.

Chiang tou. Habit spreading; pods long, round; ripens in 70 days; can be ground dry into meal for human consumption. Used to make a refreshing hot-weather beverage.

60252. POLYGONUM CAMPANULATUM Hook. f. Polygonaceæ.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 21, 1924.

During the late summer and autumn this hardy perennial, native to the Himalayas, produces dense racemes of charming, bell-shaped, fragrant, rosy white flowers. The plant is of compact, bushy habit, with handsome foliage, and is useful for growing in moderately shaded, moist situations.

60253. VIGNA LUTEA (Swartz) A. Gray (V. retusa Walp.). Fabaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received May 21, 1924.

Silani. A native perennial creeper or climbing vine found along the seashore in the Philippines.

I first saw this vine at Mindanao in 1919 and considered it promising as a cover crop, for which purpose it has since proved very satisfactory. It has also made a good green forage for cattle. Although it does not seed freely, cuttings root very readily, and the plant would appear to have possibilities for tropical regions like Porto Rico and Hawaii. (*Wester.*)

60254. SAPIUM JENMANNI Hemsl. Euphorbiaceæ.

From Georgetown, British Guiana. Seeds presented by R. Ward, superintendent, Botanic Gardens. Received May 21, 1924.

A tall forest tree which grows in low, humid situations in British Guiana and is said to be the principal, if not the only, source of rubber from that colony. The product has excellent elasticity and has brought good prices in the English markets. Seeds have been secured for department rubber specialists.

60255. COTULA CINEREA Delile. Asteraceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received May 21, 1924.

A densely hairy, pale-green herbaceous plant about 5 inches high, which, according to Doctor Trabut, makes a very agreeable tealike infusion.

60256. CUCUMIS SATIVUS L. Cucurbitaceæ. Cucumber.

From Perthshire, Scotland. Seeds presented by J. B. Roberts. Received May 21, 1924.

An Indian variety, from Malwa, Central India, 18 to 20 inches long and quite thick. It should be picked when partly ripe; a few should be left to ripen fully for seed purposes. The flavor is very pronounced. (*Roberts.*)

60257. HYOSCYAMUS FALEZLEZ Cos. Solanaceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received May 21, 1924.

This is known to the Touaregs as "Afahlehlé." It is common in the southern part of the Sahara, where its toxic properties are well known to the natives. It can be eaten by camels, goats, and sheep, but is very poisonous to horses and donkeys. It is believed that Afahlehlé fattens ruminants and also women, corpulency among the latter being considered a mark of beauty. (*Trabut.*)

60258. CITRULLUS VULGARIS Schrad. Cucurbitaceæ. Watermelon.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received May 21, 1924.

This is said to be a small watermelon with a hard thin rind and flesh of exceptionally fine quality. (*Wester.*)

60259 to 60266. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Seoul, Chosen, Japan. Seeds presented by Dr. Y. Nishimura, chief, Industrial Bureau, Government-General of Chosen. Received June 2, 1924.

Introduced for soy-bean specialists.

- | | |
|-----------------------|--------------------------|
| 60259. <i>Anpen.</i> | 60263. <i>Kongo.</i> |
| 60260. <i>Chotan.</i> | 60264. <i>Koshu.</i> |
| 60261. <i>Crusan.</i> | 60265. <i>Oiyarucon.</i> |
| 60262. <i>Heijo.</i> | 60266. <i>Tansen.</i> |

60267 to 60271. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Kwangju, Chosen, Japan. Seeds presented by Miriam de Haas, Southern Presbyterian Mission. Received June 2, 1924.

Introduced for soy-bean specialists.

- | |
|------------------------------------|
| 60267. No. 1. Large, green bean. |
| 60268. No. 2. <i>Tai-chi</i> bean. |
| 60269. No. 3. <i>Black</i> bean. |
| 60270. No. 4. <i>White</i> bean. |
| 60271. No. 5. <i>Brown</i> bean. |

60272 to 60278. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Shaoking, Chekiang, China. Seeds presented by Rev. A. F. Ufford, American Baptist Foreign Mission Society. Received June 2, 1924.

Introduced for soy-bean specialists.

- | |
|----------------------------|
| 60272. <i>Fifth Moon.</i> |
| 60273. <i>Sixth Moon.</i> |
| 60274. <i>Eighth Moon.</i> |
| 60275. <i>Ninth Moon.</i> |
| 60276. <i>Tenth Moon.</i> |
| 60277. <i>Black.</i> |
| 60278. <i>Large Green.</i> |

60279 to 60282. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Peking, China. Seeds presented by N. S. Huang, chief, Bureau of Agriculture and Forestry. Received June 2, 1924.

Introduced for the use of soy-bean specialists.

60279 to 60281. These are the three best varieties grown in this part of China. (*Huang.*)

- | |
|---------------------|
| 60279. From Mukden. |
| 60280. From Peking. |
| 60281. From Shansi. |

60282. A mixture of Peking and Shansi varieties.

60283 and 60284. LILIUM spp. Liliaceæ. Lily.

From Tunbridge Wells, England. Seeds purchased from R. Wallace & Co. Received May 21, 1924.

Obtained for horticulturists engaged in breeding new types of lilies.

Hybrids raised by the late Mrs. R. O. Backhouse.

- | |
|------------------------------------|
| 60283. LILIUM MARTAGON × HANSONI. |
| 60284. LILIUM SULPHUREUM × REGALE. |

Sulphur-Gale.

60285 and 60286.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received May 15, 1924. Notes by Mr. Towns.

60285. CUCUMIS MELO L. Cucurbitaceæ. **Melon.**

A Cuban variety which bears well and has a delicious flavor.

60286. CUCURBITA PEPO L. Cucurbitaceæ. **Pumpkin.**

Small solid pumpkins which are excellent for pie.

60287. PRUNUS sp. Amygdalaceæ.

From Germany. Plants sent at the request of Omar E. Mueller, Clifton Park, Lakewood, Ohio. Received May 19, 1924.

Weichsel. This hardy flowering cherry is exceedingly fragrant, with aromatic bark. (*Mueller.*)

60288. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ.

Soy bean.

From Fukuoka, Japan. Seeds presented by Tyôzaburo Tanaka, Kyushu Imperial University, through Dr. Mitsunaga Fujioka, Division of Forestry, Kyushu Imperial University. Received May 20, 1924.

Shimabara Wasa. From the Kumamoto Agricultural Experiment Station. (*Tanaka.*)

Introduced for cultural and comparison tests.

60289 and 60290.

From Burringbar, New South Wales, Australia. Seeds presented by B. Harrison. Received May 21, 1924. Notes by Mr. Harrison.

60289. CUCUMIS MELO L. Cucurbitaceæ. Melon.

Thorne's Monster muskmelon. A variety of delicious flavor which attains a weight of 24 pounds and a diameter of about 3 feet. Grown on reclaimed swamp land. From L. G. Thorne, Murwillumbah, New South Wales.

60290. ELICHRYSUM sp. Asteraceæ.

A very rare native double white "aster." It is a shrub about 3 feet high; the flowers are borne in large clusters.

60291. RUBUS sp. Rosaceæ.

Raspberry.

From Bolivia. Seeds collected by A. S. Hitchcock, Bureau of Plant Industry. Received May 21, 1924.

An enormous pale-rose raspberry, an inch long, from Yungas, Bolivia. I saw only one or two fruits. (*Hitchcock.*)

60292 and 60293. CINCHONA spp. Rubiaceæ.

From Tjinjiroean, Dutch East Indies. Seeds presented by the director of the Government Cinchona Plantations. Received May 22, 1924. Notes by G. A. Russell, Bureau of Plant Industry.

Introduced for specialists experimenting with drug plants.

60292. CINCHONA LEDGERIANA Moens.

Yields a bark remarkably rich in quinine which crystallizes readily as quinine sulphate. The percentage of cinchonine and other alkaloids present is relatively small. The bark of this species matures in the fifth or sixth year and does not increase in quinine after that. Suitable for cultivation only on hillsides in frost-free regions.

60293. CINCHONA SUCCIRUBRA PAVON.

Yields a bark containing a large amount of alkaloids, of which a relatively large percentage is cinchonidine which retards the separation of the quinine as sulphate. The bark of this species matures in the fourth or fifth year and does not increase in quinine thereafter. Suitable for cultivation only on hillsides in frost-free regions.

60294 to 60300.

From Shaoking, Chekiang China. Seeds presented by Rev. A. F. Ufford, American Baptist Foreign Mission Society. Received June 9, 1924. Notes by Mr. Ufford.

Introduced for forage-crop specialists.

60294 to 60299. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

60294. A mixture of *Wu Mao deo* (Black Hairy bean) and *Do Kying deo* (Big Green bean). The black beans are not used for bean curd, but are used as a tonic food.

60295. Fifth Month White. Planted in April and matures in two months. Grows well in dry places with no fertilizer.

60296. Loh Yuih bah (Sixth Month White). Planted in April; matures in about 80 days.

60297. Eighth Month White. Planted in May; matures in about 90 days.

60298. Ninth Month White. Planted early in June; matures in about 100 days.

60299. Tenth Month White. Planted early in June; matures in 120 days.

60300. VIGNA SESQUIPEDALIS (L.) Fruwirth. Fabaceæ. Yard Long bean.

Planted in April; matures in about 80 days. The culture is the same as that for soy beans. The pods, a foot or more long, are eaten green, like string beans.

60301 to 60306. CROTALARIA spp. Fabaceæ.

From Salisbury, Rhodesia, Africa. Seeds presented by H. G. Mundy, chief agriculturist, Department of Agriculture. Received May 26, 1924. Notes by Mr. Mundy.

These crotalarias appear promising to us as green manure and may be of interest for trial for a similar purpose in the United States.

60301. CROTALARIA INTERMEDIA Kotschy.

Plant 2 to 3 feet high, branching less than 6 inches above ground; leaflets long and narrow. Flowers creamy yellow with purple veins. Matures in four months.

60302. CROTALARIA MAXILLARIS Klotzsch.

Plant 1½ to 2½ feet high; branching along entire main stem; leaflets broad. Flowers bright yellow. Matures in four months.

60303. CROTALARIA SPHAEROCARPA Perr.

Plant 1 to 1½ feet high, of bushy habit. Flowers yellow. Matures in three and one-half months.

60304. CROTALARIA sp.

Plant 3 to 5 feet high, branching on upper part of stem. Flowers small, yellow. Matures in five months.

60305. CROTALARIA sp.

Plant 2 to 2½ feet high. Similar to *Crotalaria intermedia* [S. P. I. No. 60301], but has smaller flowers.

60306. CROTALARIA sp.

Similar to *Crotalaria maxillaris* [S. P. I. No. 60302], but takes two or three weeks longer to mature, and does not seed as freely.

60307 and 60308. MANGIFERA spp.
Anacardiaceæ.

From Manila, Philippine Islands. Plants presented by Don D. Strong, acting director, Bureau of Agriculture. Received June 12, 1924.

These two Philippine relatives of the mango bear edible fruits, which are sold in the markets of their native country. Although tropical in their requirements, it is possible that they will do as well in southern Florida as some of the varieties of the mango, and it is for the purpose of testing them in that section of the United States that plants have been obtained. The fruits of both are similar to those of the mango.

60307. MANGIFERA ODORATA Griffith.

According to P. J. Wester, in "Food Plants of the Philippines," the *Huani* is a handsome tree very similar to the mango in habit, foliage, and flowers. The fruits, about the size of a carabao mango, but more rounded, are green, thick skinned, sweet, and juicy, very aromatic, with yellow flesh containing numerous coarse fibers. Its occurrence as a wild plant is confined to low altitudes in the Philippines where the rainfall is equally distributed throughout the year. It is recommended for trial in regions where the mango does not thrive because of excessive moisture.

60308. MANGIFERA VERTICILLATA C. B. Robinson. Anacardiaceæ. Bauno.

Like the preceding [S. P. I. No. 60307] the bauno resembles the mango, although it is more upright in habit, with sparser foliage. The smooth, leathery, narrow leaves are 5 to 7 inches long, and the small, blue flowers are produced in terminal panicles like those of the mango. According to P. J. Wester (Food Plants of the Philippines), there is considerable variation in the size and quality of the Philippine fruit on different trees; the best being somewhat larger than the Carabao mango, about 5 inches long and 3 inches in diameter, yellowish green, with very thin skin, and very juicy white flesh, which is subacid, aromatic, and of excellent flavor, resembling that of the apricot and soursop combined. The best strains of the bauno are found in Zamboanga.

60309 to 60313.

From Edinburgh, Scotland. Seeds presented by W. Wright Smith, regius keeper, Royal Botanic Gardens. Received May 22, 1924.

60309. ECHEVERIA NODULOSA Otto (Cotyledon nodulosa Baker). Crassulaceæ.

According to Saunders (Refugium Botanicum, vol. 1) this Mexican plant, about 8 inches high, is excellent for greenhouse culture. It produces an abundance of small, straw-colored flowers tinged with red. The fleshy, oval, sharp-pointed leaves, dull green tinged with red, are in a rosette at the apex of the stem.

60310. LOPEZIA RACEMOSA Cav. Onagraceæ.

A graceful annual, native to Mexico, described by Cavanilles (Icones Plantarum, vol. 1) as a plant 3 to 4 feet high, with narrowly oval, toothed leaves and terminal racemes of crimson flowers.

60311 and 60312. PASSIFLORA SUBEROSA L. Passifloraceæ.

Several of the small-fruited passifloras are valued as ornamental plants, and this woody climber from the West Indies is one of the little-known species which properly comes under that class. The flowers are greenish yellow, and the fruit is a small, ovoid berry. Coming from the Tropics, this vine will probably endure little or no frost.

For previous introduction, see S. P. I. No. 46629.

60309 to 60313—Continued.**60313. SCHIZOCENTRON ELEGANS (Schlecht.) Meisner. Melastomaceæ.**

A very charming little creeper native to eastern Mexico, which roots at the joints and forms a dense carpet. The leaves are small, opposite, and short stemmed, and the comparatively large, purplish flowers appear at the ends of short branches. The plant deserves to be more widely cultivated and would probably grow in the open in the southern part of the United States. (J. N. Rose, United States National Museum.)

For previous introduction, see S. P. I. No. 58366.

60314 and 60315. HIBISCUS spp. Malvaceæ.

From Dacca, Eastern Bengal, India. Seeds presented by R. S. Finlow, Department of Agriculture. Received June 23, 1924.

Introduced for testing as a possible source of fiber.

60314. HIBISCUS CANNABINUS L. Ambari hemp.

Ambari is an annual plant with slender herbaceous stems, 1 to 3 meters tall, usually dark purple, the earlier lower leaves nearly round, and the later upper ones deeply lobed. The flowers are large, 4 to 7 cm. across, creamy white, with purple at the base of the petals.

It is cultivated for fiber in southern India, and its fiber, shipped from the port of Bimlipitam, is known in the London markets as "Bimlipitam jute" and is quoted at prices 20 to 30 per cent less than quotations for Indian jute. In Senegal and other parts of French West Africa the plant and its fiber are called "da." In Angola it is called "gambo" or "gombo" and in Brazil it was given the fanciful name "Canhamo Braziliensis Perini."

The fiber is cleaned by hand after retting the stalks in water. It belongs to the jute group and is suitable for making bags, burlaps, and twines.

Ambari will grow in this country from the Potomac and Ohio valleys southward, but the fiber could not be produced profitably without efficient fiber-cleaning machines. It is a hardy plant, resistant to drought and attractive in appearance, and is worthy of cultivation as an ornamental. (L. H. Dewey, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 55481.

60315. HIBISCUS SARDARIFFA L. Roselle.

Variety *alba*. A form with calyces which are smaller than those of the typical roselle and whitish or pale yellow in color. The plant is of upright habit and not as vigorous as the typical form.

For previous introduction, see S. P. I. No. 51268.

60316 and 60317. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

From Hakozaki, Fukuoka, Japan. Seeds presented by Dr. Tyozauro Tanaka, Kyushu Imperial University. Received June 24, 1924. Notes by Doctor Tanaka.

Introduced for specialists interested in soy beans.

60316. A, Meguro Daizu (black-eye soy bean; black-eye may be a local name). From Tara village, Fujitsu County.

60317. B, From Nanaura village, Fujitsu County.

60318. TRITICUM TURGIDUM L. Poaceæ. Poulard wheat.

From South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received May 20, 1924.

No. 49. Calca, Peru. *Yana barba* (black bearded). Obtained from T. E. Payne; grown locally for a long time. (Richey and Emerson.)

**60319. AMPELODESMA BICOLOR (Poir.)
Kunth. Poaceæ. Grass.**

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 27, 1924.

A caespitose grass, with long tough leaves, which appears to do well in Algeria on poor soil. It will be tested as a forage grass, and it may also be of possible use for paper making.

**60320 to 60322. CUCUMIS MELO L.
Cucurbitaceæ. Melon.**

From Teheran, Persia. Seeds presented by Joseph S. Kornfeld, American Minister. Received June 9, 1924.

Sent in response to a request for the best varieties of melons cultivated in Persia, for the use of horticulturists engaged in melon-breeding experiments.

60320. *Gorgabe d'Ispahan*.

60321. *Kharabose Samsour id'Ispahan*.

60322. *Kharbose Sine d'Ispahan*.

**60323. TRACHYLOBIUM VERRUCOSUM
(Gaertn.) Oliver. Cæsalpiniaceæ.**

From Soledad, Cienfuegos, Cuba. Seeds presented by Robert M. Grey, superintendent, Cuban Gardens. Received June 11, 1924.

Although this leguminous tree, native to Madagascar, produces a resin used to some extent in the manufacture of varnish, its chief value will probably be as an ornamental. It attains a height of 20 feet, is spineless, and bears dense clusters of white flowers. According to Mr. Grey, who sends seeds from Cuba, the "Copal tree," as he calls it, does well in that country on shallow, clay uplands, either partially shaded or fully exposed to the sun.

**60324. MORUS KAGAYAMAE Koidz.
Moraceæ.**

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 12, 1924.

A handsome Japanese mulberry which thrives in Algeria. The leaves are eaten readily by silkworms.

**60325 to 60334. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceæ.
Soy bean.**

From Nishigahara, Tokyo, Japan. Seeds presented by H. Ando, director, Imperial Agricultural Experiment Station. Received June 12, 1924. Notes by Mr. Ando.

Introduced for agronomists experimenting with soy beans.

60325. *Akasaya*. Medium growing season. From the Ibaraki Prefectural Agricultural Experiment Station.

60326. *Bakamame*. Medium growing season. From the Saitama Prefectural Agricultural Experiment Station.

60327. *Kimusume*. Medium growing season. From the Ibaraki Prefectural Agricultural Experiment Station.

60328. *Okuechigo*. Long growing season. From the Gumma Prefectural Agricultural Experiment Station.

60329. *Onihadaka*. Long growing season. From the Gumma Prefectural Agricultural Experiment Station.

60330. *Sennari-Kimusume*. Short growing season. From the Saitama Prefectural Agricultural Experiment Station.

60331. *Shakkinashi*. Long growing season. From the Gumma Prefectural Agricultural Experiment Station.

60325 to 60334—Continued.

60332. *Shirobana*. Short growing season. From the Saitama Prefectural Agricultural Experiment Station.

60333. *Shizika*. Medium growing season. From the Ibaraki Prefectural Agricultural Experiment Station.

60334. *Suzumame*. Short growing season. From the Saitama Prefectural Agricultural Experiment Station.

60335 to 60352.

From Amsk, Siberia, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received May 25, 1924.

60335. *ASTRAGALUS PHYSODES* L. Fabaceæ.

A nearly stemless species from the desert regions of southwestern Russia.

60336. *ASTRAGALUS VIMINEUS* Pall. Fabaceæ.

An erect, shrubby species from southern Russia and the Caucasus.

60337 to 60339. *CHAETOCLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceæ. **Millet.**

From the Province of Akmolinsk.

60337. *Mogar*.

60338. *Mogar* (black).

60339. *Mogar* (white).

60340. *CITRULLUS VULGARIS* Schrad. Cucurbitaceæ. **Watermelon.**

From the Province of Kustanai.

60341. *HALIMODENDRON HALODENDRON* (Pall.) Voss. Fabaceæ. **Salt tree.**

From the Province of Omsk. The *chinguil* is an ornamental shrub characteristic of the Kirgiz steppes and Turkestan deserts. It is very drought resistant and not particular as to soil. (*Murashinsky*.)

For previous introduction, see S. P. I. No. 42283.

60342. *HEDYSARUM POLYMORPHUM* Ledeb. Fabaceæ.

A Siberian species with an ascending stem

60343. *IRIS HALOPHILA* Pall. Iridaceæ. **Iris.**

From the Province of Kustanai. A low-growing Siberian iris, 1 or 2 feet high, with pale-green leaves and spicate clusters of yellow flowers.

60344. *LIMONIUM GMELINI* (Willd.) Kuntze (*Statice gmelini* Willd.). Plumbaginaceæ.

From the Province of Akmolinsk. A hardy, pink-flowered shrub which grows in salt marshes; it is sometimes used for tanning.

60345. *OXYTROPIS FLORIBUNDA* (Pall.) DC. Fabaceæ.

A low herbaceous perennial with purplish red flowers, which grows in sandy places in Siberia.

60346. *SOPHORA ALOPECUROIDES* L. Fabaceæ.

A semihardy, grayish pubescent undershrub with upright branches and dense, terminal racemes of yellow flowers. Native to western Asia.

60347 to 60350. *STIPA* spp. Poaceæ. **Grass.**

60347. *STIPA CAPILLATA* L.

A caespitose grass, with erect rigid stems, from rocky places in Europe and western Asia.

60348 to 60350. Native Siberian species, valuable as fodder grasses, introduced for testing in this country.

60335 to 60352—Continued.

60348. *STIPA PENNATA* L.60349. *STIPA PENNATA LESSINGIANA* (Tr. and Rupr.) Richter.
No. 1.60350. *STIPA PENNATA LESSINGIANA* (Tr. and Rupr.) Richter.
No. 2.60351. *TRIFOLIUM FRAGIFERUM* L. Fabaceæ.

From the shores of the Tobol River, Province of Kustanai.

Strawberry clover has proved, in Australia, to be suitable as a pasture plant for wet, marshy ground.

For previous introduction, see S. P. I. No. 58854.

60352. *ZEA MAYS* L. Poaceæ. Corn.

From the Province of Akmolinsk, District of Atbasar.

60353. *ASCLEPIAS STELLIFERA* Schlechter. Asclepiadaceæ.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received May 24, 1924.

A low, narrow-leaved, purple-flowered milkweed introduced from South Africa for the use of specialists seeking new sources of rubber.

60354. *PASSIFLORA* sp. Passifloraceæ.

From Para, Brazil. Seeds presented by Godfrey Davidson. Received June 13, 1924.

This is a very choice hybrid *granadilla* and is the best of two hundred varieties which I am growing here. I believe the seeds will come nearly true to type. The fruit is large, yellow, and sweet, and the plant bears throughout the year. (Davidson.)

60355 and 60356.

From Gatun, Canal Zone. Seeds presented by Joseph A. Close. Received June 11, 1924.

60355. *CARICA PAPAYA* L. Papayaceæ. Papaya.

A large papaya of very good flavor. (Close.)

60356. *PASSIFLORA VITIFOLIA* H. B. K. Passifloraceæ.A tropical climber, native to Panama, where it is known as *sandia del monte*, or wild watermelon. The plant is a vigorous grower, with handsome red flowers which give it ornamental value. The fruit, though edible, is not of good quality. For trial in southern Florida and tropical regions.

60357 to 60359.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received June 12, 1924.

60357. *EUONYMUS FIMBRIATUS* Wall. Celastraceæ.The chief value of the various species of *Euonymus* lies in the beauty of the fruits and the autumnal coloring of the foliage. This particular species, native to the more temperate portions of the Himalayas at altitudes of 8,000 to 12,000 feet, is apparently unknown horticulturally. It is a shrub or small tree, with deeply cut, dark-green leaves, small white flowers, and fruits about the size of cherries.60358. *HELLEBORUS FOETIDUS* L. Ranunculaceæ.

A hardy herbaceous perennial from western Europe which is valued chiefly for the ornamental character of its handsome leathery foliage. The inconspicuous flowers are greenish or bordered with purple.

For previous introduction, see S. P. I. No. 53146.

60357 to 60359—Continued.

60359. *RUSCUS HYPOGLOSSUM* L. Convallariaceæ.

A handsome evergreen shrub 1 to 2 feet high, which is very attractive in the fruiting condition, when the large orange-scarlet berries contrast pleasingly with the long dark-green leaves. It is native in southern Europe, and thrives best in shady, moist situations.

60360 and 60361.

From Kirstenbosch, Newlands, Cape Province, South Africa. Seeds presented by the director of the National Botanic Gardens. Received June 9, 1924.

60360. *CALLITRIS CUPRESSOIDES* (L.) Kuntze. Pinaceæ.

An evergreen South African shrub about 10 feet high, with opposite linear leaves closely pressed against the branchlets like scales. It is probably best suited for growing in the Gulf States and California.

60361. *GLADIOLUS CALLISTUS* Bolus f. Iridaceæ.

As an ornamental for the Southern States and for breeding purposes this South African gladiolus may be of value. It is described in the July, 1917, number of the Annals of the Bolus Herbarium as a tall plant, 30 to 40 inches high, with four to seven narrow, sword-shaped basal leaves 1 to 2 feet long and two stem leaves. The flowers, white suffused with pink and 9 to 12 in number, are produced on 1 to 3 branches.

60362. *BERBERIS KOEHNEANA* C. Schneid. Berberidaceæ. Barberry.

From Dehra Dun, India. Seeds presented by the botanist, Department of Agriculture. Received May 21, 1924.

A shrubby barberry from northern India, which is described by C. K. Schneider (*Bulletin l'Herbier Boissier*, ser. 2, vol. 5, p. 814) as having purplish branches, brownish spines in clusters of one to three, and oblong-acute leaves, light green above and ashy beneath.

60363 to 60366.

From Ventimiglia, Italy. Seeds presented by S. W. McLeod Braggins, superintendent, La Morla Botanic Garden. Received June 16, 1924.

These three grasses and the unnamed tomato variety have been obtained for specialists who are testing all available strains of these crop plants in the effort to discover superior types for growing in the United States.

60363. *BRACHYPODIUM DISTACHYUM* (L.) Roem. and Schult. Poaceæ. Grass.

A very stiff, densely branched annual grass 4 to 12 inches high, upright or ascending in habit, found in cultivated fields and along roadsides, often in chalky soil, in the Mediterranean countries.

60364. *BRACHYPODIUM RAMOSUM* (L.) Roem. and Schult. Poaceæ. Grass.

A blue-green, perennial, creeping grass, much branched at the base, found in the warmer portions of the Mediterranean countries, especially on chalky soil and in dry, rocky places.

60365. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ. Tomato.

An unnamed variety.

60366. *PHALARIS NODOSA* L. Poaceæ. Grass.

A perennial grass with ascending stems, found in sunny, grassy places along roadsides and on the edges of fields in the Mediterranean countries. It is often propagated by means of the swollen rootstocks which are situated just below the surface of the ground.

60367. GUILIELMA SPECIOSA Mart.
Phœnicaceæ. **Pupunha.**

From Para, Brazil. Seeds presented by P. H. Anet, Caixa 270. Received June 16, 1924.

The pupunha is an Amazonian palm, becoming ultimately about 60 feet high, and is closely allied to the peibaye (*Guilielma utilis*). Like the latter, it furnishes food for great numbers of people in regions where it is indigenous, and appears to be of promise for cultivation as a food plant throughout the Tropics in congenial situations.

60368. CUCUMIS METULIFERUS E. Mey.
Cucurbitaceæ.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, Division of Botany. Received June 23, 1924.

This South African "wild cucumber" is native to the Kalahari Desert and the Belgian Congo, where, according to Pole Evans, the fruit is considered excellent for eating. The plant is an annual creeper, much branched, and covered with bristly hairs. The dark-green leaves are similar to those of the ordinary cucumber, and the flowers are yellow. The gourdlike fruit, oblong in shape, varies from greenish yellow to red in color when ripe, is about 5 inches long, and is covered with short, hard spines. It is eaten in the same way as the ordinary cucumber, according to the Journal of the South African Department of Agriculture for August, 1923.

60369 to 60377.

From French Somaliland. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 16, 1924. Notes by Doctor Shantz.

60369. ACACIA sp. Mimosaceæ.

No. 48. Aicha, French Somaliland. February 8, 1924. An acacialike tree with seeds edible just before they are ripe.

60370. CAPPARIS sp. Capparidaceæ.

No. 55. En route from Jibuti to Addis Ababa, Abyssinia. January 31, 1924. A prominent plant in Lower Abyssinia. The fruits are eaten by birds.

60371. CICER ARIETINUM L. Fabaceæ.
Chick-pea.

No. 22. Doukham, Abyssinia. February 1, 1924. Grown as the most common legume in Abyssinia. This black form is quite abundant.

60372. CROTALARIA sp. Fabaceæ.

No. 14. Afdem, Abyssinia. January 30, 1924. A small spreading plant.

60373 and 60374. ERAGROSTIS ABYSSINICA (Jacq.)
Schræd. Poaceæ. **Teff.**

60373. No. 65. Addis Ababa, Abyssinia. February 4, 1924. A white teff grown here on black cotton soil. After heavy rains when the soil is thoroughly trampled by animals until a soft mud, teff is sown over the mud and yields a good crop.

60374. No. 68. Addis Ababa, Abyssinia. February 4, 1924. Brown teff.

60375. GOSSYPIUM sp. Malvaceæ.
Kidney cotton.

No. 8. Errar, French Somaliland. January 29, 1924. Grown by the natives.

60376. GOSSYPIUM sp. Malvaceæ.
Kidney cotton.

No. 9.

60377. GOSSYPIUM sp. Malvaceæ.
Cotton.
No. 60.**60378. BERBERIS ARISTATA DC. Ber-**
beridaceæ. **Barberry.**

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

A handsome shrub of elegant, spreading habit, becoming at times as much as 10 feet high. The spine-tipped leaves are often whitish beneath, and the numerous flowers are bright golden yellow. The spindle-shaped berries, about half an inch in length, are red, covered with a blue-white bloom. This is said to be one of the most vigorous of the Himalayan barberries; it has proved hardy at the Arnold Arboretum, Jamaica Plain, Mass.

For previous introduction, see S. P. I. No. 53628.

60379 to 60387.

From French Somaliland. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 16, 1924. Notes by Doctor Shantz.

60379. HOLCUS SORGHUM L. (*Sorghum vulgare*
Pers.). Poaceæ. **Sorghum.**

No. 67. Type of sorghum sold in the market.

60380. INDIGOFERA sp. Fabaceæ.

No. 5. Above Jibuti. January 29, 1924. A small perennial legume 2 to 5 feet high with a pleasant odor. Abundant in French Somaliland.

60381. LENTILLA LENS (L.) W. F. Wight (*Lens*
esculenta Moench). Fabaceæ. **Lentil.**

No. 63. Addis Ababa, Abyssinia. February 4, 1924.

60382. PENNISETUM sp. Poaceæ. **Grass.**

No. 54a. Addis Ababa, Abyssinia. February 5, 1924. Mixed.

60383. THEMEDA sp. Poaceæ. **Grass.**

No. 54b. Addis Ababa, Abyssinia. February 5, 1924. Mixed.

60384. ROSA sp. Rosaceæ. **Rose.**

No. 26. Addis Ababa, Abyssinia. February 4, 1924. A very attractive single white rose which grows wild on the highlands. It is much used as a hedge.

60385. RUBUS sp. Rosaceæ.

No. 33. Addis Ababa, Abyssinia. February 4, 1924. A very large, ornamental bush having reddish purple flowers and large orange or darker berries similar to blackberries, prized as a fruit in Abyssinia. May prove to be of value for breeding experiments.

60386. TRITICUM DURUM L. Poaceæ.
Durum wheat.

No. 57. Addis Ababa, Abyssinia. February 4, 1924. Wheat having a dark pericarp. Quite common in the market; may be very valuable for breeding experiments.

60387. TRITICUM DURUM L. Poaceæ.
Durum wheat.

No. 58. Addis Ababa, Abyssinia. February 4, 1924. Lighter in color than Nos. 56 and 57 [S. P. I. Nos. 59284 and 60386]. Found to be common in the market.

60388 to 60394.

From Uganda, British East Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 20, 1924. Notes by Doctor Shantz.

60388. ACACIA sp. Mimosaceæ.

No. 124. Karmosa, Kenya. March 8, 1924. An attractive flat-topped tree whose occurrence characterizes the best type of soil.

60388 to 60394—Continued.

60389. *ALBIZZIA* sp. Mimosaceæ.

No. 127. Karmosa, Kenya. March 8, 1924. A large, handsome flat-topped tree, with bright-green foliage, which is especially ornamental when covered with its mantle of flowers.

60390. *ARISTOLOCHIA* sp. Aristolochiaceæ.

No. 144. Kampala, Uganda. March 16, 1924. A very attractive ornamental vine with large mottled flowers.

60391. *FICUS* sp. Moraceæ.

No. 143. Kampala, Uganda. March 16, 1924. An ornamental tree grown extensively in East Africa. It is considered one of the best shade trees in Kampala. Probably this is the same as that used for making bark cloth.

60392. *VOANDZEIA SUBTERRANEA* (L.) Thouars. Fabaceæ.

No. 129. Karmosa, Kenya. March 8, 1924. This nut is hard when ripe and can not be used as is our peanut. The plant should be pulled while the beans are still soft, boiled, and then shelled. In this form it would make a very desirable side vegetable.

60393. (Undetermined.)

No. 125. Karmosa, Kenya. March 8, 1924. A large tree with a straight white trunk and good ivory-colored wood. The edible fruit is very popular in the market.

60394. (Undetermined.)

No. 126. Karmosa, Kenya. March 8, 1924. Fruit like that of *Landolphia*, but appears to come from a tree; it is full of latex; about 2 inches in diameter, with seeds inclosed in yellow pulp. May be of value for rubber.

60395 to 60405.

From Uganda, British East Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 26, 1924. Notes by Doctor Shantz.

60395. *BAUHINIA* sp. Cæsalpiniaceæ.

No. 149. Iganga, Uganda. March 19, 1924. A small ornamental tree with handsome foliage and attractive pink flowers. Grown extensively in East Africa as an ornamental.

60396. *CERBERA THEVETIA* L. (*Thevetia nereifolia* Juss.). Apocynaceæ.

No. 152. Iganga, Uganda. March 19, 1924. An excellent ornamental, willow-leaved, yellow-flowered tree.

60397. *COLOCASIA* sp. Araceæ.

No. 181. Nairobi, Kenya. March 23, 1924.

60398. *JATROPHA MULTIFIDA* L. Euphorbiaceæ.

No. 150. Kimule, Uganda. March 19, 1924. Leaves finely cut, like those of *Manihot*; flower heads red. Widely grown as an ornamental.

60399. *GOSYPIUM* sp. Malvaceæ. Cotton.

No. 176.

60400. *HIBISCUS* sp. Malvaceæ.

No. 183. Tororo, Uganda. March 23, 1924. A small species which may be useful as an ornamental.

60401. *MELOTHRIA* sp. Cucurbitaceæ.

No. 178. Tororo, Uganda. March 23, 1924. Fruits small, red, eaten by birds. Plant would make a good ornamental.

60402. *PHASEOLUS LUNATUS* L. Fabaceæ. Lima bean.

No. 151. Kampala, Uganda. March 18, 1924. A large, climbing form, growing over many of the fences in Kampala.

60395 to 60405—Continued.

60403. *TELFAIRIA PEDATA* (J. E. Smith) Hook. Cucurbitaceæ.

No. 179. This cucurbit is sold in the Nairobi market. One seed house now has orders for 25,000 pounds.

60404. (Undetermined.)

No. 146. Iganga, Uganda. March 19, 1924. The best timber tree of the Bargand country; trunk straight, wood walnutlike but hard and resistant to termites. Used universally for cabinetwork.

60405. (Undetermined.)

No. 184. Nairobi, Kenya. March 27, 1924. An attractive ornamental vine with capsules like that of the morning-glory, but with tubular flowers varying from yellow to red.

60406 to 60410. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Yenping, Fukien, China. Seeds presented by L. C. Lin. Received June 25, 1924. Notes by Mr. Lin.

Introduced for agronomists experimenting with soy beans.

60406. *Cung Yien*. Used for making bean curd.60407. *Heh Yien*. Used for making bean curd and soy-bean cheese.60408. *Kuan Huang*. May be a mixture of Mammoth Yellow, A. K., and Haberlandt. Good for making bean curd.60409. *Sao Heh*. Good for making soy-bean sauce.60410. *Tai Yien*. Good for making bean curd.

60411 and 60412. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Ichang, China. Seeds purchased from Rev. A. S. Cooper, American Church Mission. Received June 25, 1924. Notes by Mr. Cooper.

These are the two varieties grown in this locality. They are used for making bean curd, a staple article of diet in this region.

60411. Common variety.

60412. The black variety.

60413 to 60416. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

From Foochow, China. Seeds presented by Dr. Franklin P. Metcalf, Fukien Christian University. Received June 25, 1924. Notes by Doctor Metcalf.

Introduced for agronomists experimenting with the soy bean.

60413. No. 1. *Uong dau* (yellow bean). Obtained in Foochow, but reported to come from Manchuria. Used for bean curd and used in Hankow as well as here for the oil. This variety is also raised here for oil, for which purpose it ranks second among these four varieties.

60414. No. 2. *Chang dau* (green bean). Not grown in Foochow, but used for oil and bean curd.

60415. No. 3. *Uong dau* (yellow bean). Grown principally in the vicinity of Kutien, not around Foochow. Used for bean curd and for oil; considered the best of all the soy beans around here for oil.

60416. No. 4. *Ou dau* (black bean). Like the preceding, this is grown only in the vicinity of Kutien. Used mostly for human food; makes excellent bean curd.

60417. AGROSTIS CAPILLARIS L. Poaceae. Grass.

From Wellington, New Zealand. Seeds presented by E. Bruce Levy, Department of Agriculture. Received June 28, 1924.

Rhode Island bentgrass, introduced for cultural and comparison tests.

60418 to 60420.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

60418. BERBERIS SINENSIS Desf. Berberidaceae. Barberry.

A slender-branched shrub 4 to 6 feet high, with ovoid, purplish berries. Native to the Caucasus. (*Alfred Rehder, Arnold Arboretum, Jamaica Plain, Mass.*)

For previous introduction, see S. P. I. No. 58118.

60419. BERBERIS WILSONAE Hemsl. Berberidaceae. Barberry.

A handsome, sometimes partially evergreen shrub, 2 to 4 feet high, with abundant, roundish, coral-red berries, somewhat translucent. The leaves assume brilliant tints in autumn.

For previous introduction, see S. P. I. No. 53647.

60420. CLEMATIS MONTANA RUBENS Wilson. Ranunculaceae.

A vigorous, hardy climber, native to the Himalayas; it often reaches a height of 15 to 20 feet; the foliage is reddish, particularly when the young leaflets are unfolding, and the sweet-scented, pink flowers, about 2 inches across, are produced several in each axil, opening in succession one at a time.

For previous introduction, see S. P. I. No. 52934.

60421 to 60424. MUSA TEXTILIS Nee. Musaceae. Abaca.

From the south end of the island of Luzon, Philippine Islands. Plants presented by James Zetek, Ancon, Canal Zone. Received June 25, 1924.

A collection of abaca varieties introduced for testing by fiber specialists.

60421. *Camalig.* 60423. *Pula.*

60422. *Itom.* 60424. *Puti.*

60425. COTONEASTER FRIGIDA Wall. Malaceae.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

Var. *vicarii*. This is an improved form with deep-green leaves, grayish beneath, and large clusters of rich-red berries which are larger and brighter than those of the typical form.

For previous introduction, see S. P. I. No. 58609.

60426 and 60427. VITEX spp. Verbenaceae.

From Mount Silinda, Southern Rhodesia. Seeds presented by Dr. W. L. Thompson, American Board Mission. Received June 30, 1924.

The fruits of both of these species are eaten with relish by the natives; we also enjoy them occasionally. (*Thompson.*)

60426. VITEX CIENKOWSKII Kotschy and Peyr.

According to Thiselton-Dyer (Flora of Tropical Africa) this species becomes a tree 50 feet high, with leathery leaflets, dense axillary clusters of yellowish brown flowers, and edible fruits the size of cherries.

60426 and 60427—Continued.**60427. VITEX EYLESII S. Moore.**

A large South African shrub with dense cymes of small heliotrope flowers.

60428 to 60437. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae. Soy bean.

From Fukuoka, Japan. Seeds presented by Tyôzaburô Tanaka, Kyushu Imperial University, through Dr. Mitsunaga Fujioka, Division of Forestry, Kyushu Imperial University. Received June 17, 1924.

Introduced for testing by soy-bean specialists.

From the Oita Prefectural Agricultural Experiment Station. (*Tanaka.*)

60428. *Bungo No. 1.* 60431. *Bungo No. 5.*

60429. *Bungo No. 2.* 60432. *Bungo No. 6.*

60430. *Bungo No. 3.*

From the Miyazaki Prefectural Agricultural Experiment Station. (*Tanaka.*)

60433. *Ameiro.* 60436. *Kindaizu.*

60434. *Aochi.* 60437. *Sanryûiri.*

60435. *Ishiwara Daizu.*

60438 to 60440.

From Kingston, Jamaica, British West Indies. Plants presented by F. E. Betheuser. Received June 9, 1924.

60438. DILLENIA BURBIDGEI (Hook. f.) Gilg. Dilleniaceae.

A handsome yellow-flowered shrub from northern Borneo which may prove sufficiently hardy for growing in southern Florida. The deep-green leaves are 8 to 10 inches long, and the pale golden-yellow flowers are about 3 inches in diameter. (Adapted from *Curtis's Botanical Magazine*, pl. 6531.)

60439. NAPOLEONA IMPERIALIS Beauv. Lecythidaceae.

An interesting ornamental tree from West Africa with oblong leaves sometimes a foot and a half long, and solitary, saucer-shaped, axillary flowers which are dominantly reddish and bluish and about 2 inches across. Probably tropical in its requirements.

60440. THUNBERGIA MYSORENSIS (Wight) T. Anders. Acanthaceae.

There are already a number of Thunbergias which have earned popularity as ornamentals in southern Florida, and this species, which is native to southern India, will be of great interest for that section if it proves hardy. It is a climber with long slender stems, opposite, very narrow leaves, and irregular racemes of handsome flowers, yellow with deep-red borders.

60441 and 60442. CRYPTOSTEGIA spp. Asclepiadaceae.

From Kew, England. Cuttings presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received June 25, 1924.

Introduced for testing by rubber specialists.

60441. CRYPTOSTEGIA GRANDIFLORA R. Br. Palay rubber.

An erect, woody climber, of unknown nativity, but now cultivated in many places in the Tropics of both hemispheres as an ornamental, and occasionally growing as an escape from cultivation. The flowers, reddish purple becoming pale pink, are about 2 inches across and are produced in short spreading cymes. In India the plant is called palay and is cultivated for the rubber obtained from the juice.

60441 and 60442—Continued.

For previous introduction, see S. P. I. No. 58851.

60442. *CRYPTOSTEGIA MADAGASCARIENSIS* Bojer.

A climbing shrubby vine, native to Madagascar, which is grown as an ornamental in South America and elsewhere. The leaves are short and leathery, and the whitish or pink flowers are 2 to 3 inches wide.

60443 to 60447. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceæ.

Sweet potato.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received June 26, 1924.

From the eight American varieties sent us in 1922 only one, the Pumpkin "yam," has seeded at all. I am sending you some of this variety. (Thompson.)

60443. Pumpkin "yam" No. 1.

60444. Pumpkin "yam" No. 6.

60445. Pumpkin "yam" No. 12.

60446. Pumpkin "yam."

60447. Pumpkin "yam" (mixed).

60448. *MEIBOMIA JAPONICA* (Miquel) Kuntze (*Desmodium podocarpum* DC.). Fabaceæ.

From Leningrad, Russia. Seeds presented by Wl. Kousnetzoff, in charge of forage plants of the Bureau of Applied Botany. Received June 12, 1924.

Introduced for testing by forage-plant specialists.

An herbaceous species 2 to 3 feet high, with membranous leaflets, native to temperate and tropical regions of the Himalayas of northeastern India at altitudes ranging from 2,000 to 7,000 feet.

60449 to 60460.

From East Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received May 7, 1924. Notes by Doctor Shantz.

60449. *ALOE* sp. Liliaceæ.

No. 99. Voi Wusi. February 20, 1924. A very handsome ornamental plant.

60450. *BAUHINIA* sp. Cæsalpiniaceæ.

No. 81. Wusi, Kenya. February 28, 1924. A small, ornamental shrub with large, orchidlike flowers, valuable as an ornamental.

60451. *CARICA PAPAYA* L. Papayaceæ. Papaya.

No. 10. Afdem, Lower Abyssinia. January 30, 1924. Grows here at a high altitude and in a very dry country.

60452. *CITRUS MEDICA* L. Rutaceæ. Citron.

No. 11. Afdem, Lower Abyssinia. January 30, 1924. A very coarse, large lemonlike variety, 8 to 10 inches long, of very good flavor, eaten fresh by the Ethiopians. Seeds numerous. Known as "Trenq" to the Arabs.

60453. *CROTON MEGALOCARPUS* Hutchinson (*C. elliotianus* Pax and Engl., not Baill.). Euphorbiaceæ.

No. 95. Nairobi. February 23, 1924. A timber tree the seeds of which are used medicinally.

60454. *ERAGROSTIS SUPERBA* Peyr. Poaceæ. Grass.

No. 87. Wusi. February 20, 1924. An excellent native pasture grass, about 3 feet tall, with broad compressed spikelets.

60449 to 60460—Continued.

60455. *SOLANUM* sp. Solanaceæ.

No. 94. Nairobi, Kenya. February 23, 1924. An ornamental producing snow-white berries about three-fourths of an inch in diameter.

60456. *SPOROBOLUS* sp. Poaceæ. Grass.

No. 80. Wusi. February 20, 1924.

60457. *TRICHOLAENA ROSEA* Nees. Poaceæ. Natal grass.

No. 84. Wusi. February 20, 1924.

60458. *ZIZIPHUS MAURITIANA* Lam. Rhamnaceæ.

No. 92. French Somaliland. February 10, 1924. A small fruit of good flavor sold in the market at Djibuti.

60459. (Undetermined.)

No. 93. Djibuti, French Somaliland. February 10, 1924. A rather large, ornamental tree with edible pods. The pulp around the seed is white, starchy, and of very good flavor. The seeds are not eaten.

60460. (Undetermined.)

No. 100. Voi Wusi, Kenya. February 20, 1924. A large bulb with many flowers on one stem, which grows in semidesert brushland. The bulbs are eaten by animals.

60461 to 60636.

From Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received June 3, 1924. Notes by Doctor Harlan.

60461. *ABUTILON* sp. Malvaceæ.

No. 535. January 10, 1924. Seeds of a flowering plant not previously seen, collected a 3-days' journey west of Lalibela at an altitude of 9,600 feet.

60462. *ALOE* sp. Liliaceæ.

No. 512. Lalibela. January 7, 1924. Collected at an altitude of 8,800 feet.

60463. *AVENA ABYSSINICA* Hochst. Poaceæ. Oats.

No. 399a. December 8, 1924. From a threshing field on the road to Ankober at an altitude of 9,600 feet.

60464. *BRACHIARIA OBTUSIFLORA* (Hochst.) Stapf. Poaceæ. Grass.

No. 577. February 1, 1924. A belated specimen in black cotton soil near Koui.

60465. *BROMUS* sp. Poaceæ. Grass.

No. 530. January 12, 1924. Collected a 3-days' journey east of Debra Tabor, on the mountain side at an altitude of 9,700 feet.

60466 and 60467. *CARUM COPTICUM* (L.) Benth. and Hook. Apiaceæ.

60466. No. 450. December 15, 1923. Purchased in the market at Makfud.

60467. No. 519. January 7, 1924. Nach Azmot. A flavoring spice obtained in the Lalibela market.

60468. *CASSIA OCCIDENTALIS* L. Cæsalpiniaceæ.

No. 483. December 27, 1923. Collected a 2-days' journey north of Dessie, Mille Valley, at an altitude of 6,000 feet.

60469. *CASSIA TORA* L. Cæsalpiniaceæ.

No. 566. January 26, 1924. Collected a day's journey east of Wahihi.

60470 and 60471. *CICER ARIETINUM* L. Fabaceæ. Chick-pea.

60470. No. 423. December 11, 1923. Purchased in Allu Amba, Ankober.

60461 to 60636—Continued.

60471. No. 520. January 7, 1924. Lalibela market.

60472. *CROTALARIA* sp. Fabaceæ.

No. 446. December 2, 1923. Collected on the roadside 10 miles west of Addis Ababa at an altitude of 8,000 feet.

60473 to 60476. *CYMOPOGON* spp. Poaceæ.
Grass.

60473. *CYMOPOGON SCHOENANTHUS* (L.) Spreng. (*Andropogon schoenanthus* L.).

No. 581. February 4, 1924. Collected near Gadaref, Sudan.

60474. *CYMOPOGON* sp.

No. 528. January 12, 1924. Collected on the mountain side a 3-days' journey east of Debra Tabor at an altitude of 9,700 feet.

60475. *CYMOPOGON* sp.

No. 531. January 12, 1924. Collected on the mountain side at an altitude of 9,700 feet, a 3-days' journey east of Debra Tabor.

60476. *CYMOPOGON* sp.

No. 562. Wahini. January 27, 1924. Collected in bottom land.

60477. *CYNODON PLECTOSTACHYS* (Schum.) Pilg. Poaceæ. Grass.

No. 467. December 18, 1923. Collected in a river bottom, a day's journey south of Majetie, at an altitude of 5,500 feet.

60478 to 60480. *ELEUSINE CORACANA* (L.) Gaertn. Poaceæ. Ragi.

60478. No. 401. December 5, 1923. Presented by H. H. Ras Tafari, Addis Ababa. Of possible value for forage and seed.

60479. No. 538. January 19, 1924. A prolific-seeded grass collected a 2-days' journey south of Gondar. Used for bread. At this elevation it would be a fine forage crop.

60480. No. 546. January 19, 1924. Found on the border of Lake Tsana a 2-days' journey south of Gondar.

60481 to 60486. *ERAGROSTIS* spp. Poaceæ.

60481 to 60485. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. Teff.

60481. No. 418. December 11, 1923. Red teff. Purchased in Allu Amba, Ankober.

60482. No. 419. December 11, 1923. White teff. Purchased in Allu Amba, Ankober.

60483. No. 515. January 7, 1924. Lalibela market.

60484. No. 517. January 7, 1924. Lalibela market.

60485. No. 542. January 19, 1924. Found on the border or Lake Tsana a 2-days' journey south of Gondar.

60486. *ERAGROSTIS* sp. Grass.

No. 583. Found on the plateau probably between Lalibela and Debra Tabor.

60487 to 60489. *GOSSYPIMUM* spp. Malvaceæ. Cotton.

60487. *GOSSYPIMUM* sp.

No. 457. December 15, 1923. Makfud market.

60488. *GOSSYPIMUM* sp.

No. 472. December 24, 1923. Purchased in the Dessie market.

60461 to 60636—Continued.

60489. *GOSSYPIMUM* sp.

No. 487. Dessie. December 28, 1923. Collected in a river valley at an altitude of 6,000 feet.

60490. *HELMINTHOCARPUM ABYSSINICUM* A. Rich. Fabaceæ.

No. 523. Lalibela. January 7, 1924. Found on the canyon side at an altitude of 8,800 feet.

60491. *HIBISCUS* sp. Malvaceæ.

No. 556. January 20, 1924. Found on the edge of Lake Tsana, a day's journey south of Gondar.

60492 to 60524. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceæ. Sorghum.

60492. No. 412. Ankober. December 11, 1923. Purchased in a village.

60493. No. 417. December 11, 1923. Purchased in Ankober.

60494. No. 422. Ankober. December 11, 1923. Purchased in Allu Amba.

60495. No. 448. Makfud. December 15, 1923. A dry-stemmed grain sorghum found growing at an altitude of 8,000 feet.

60496. No. 456. Makfud. December 15, 1923. Found in the Robi River Valley at an altitude of 5,300 feet.

60497. No. 460. December 17, 1923. A yellow sorghum growing 15 to 18 feet in height, a 2-days' journey south of Majetie.

60498. No. 461. December 17, 1923. Panicle 2 feet in length. Found a 2-days' journey south of Majetie.

60499. No. 462. December 18, 1923. A tall sorghum, 12 to 15 feet in height, found a day's journey south of Majetie.

60500. No. 465. December 18, 1923. Found a day's journey south of Majetie.

60501. No. 468. December 23, 1923. Collected a 2-days' journey south of Dessie.

60502. No. 478. Dessie. December 24, 1923. Purchased in the market.

60503. No. 481. December 27, 1923. Found in the Mille Valley, a 2-days' journey north of Dessie at an altitude of 6,500 feet.

60504. No. 482. December 28, 1923. Collected a 3-days' journey north of Dessie in a valley at an altitude of 6,100 feet.

60505. No. 485. December 29, 1923. Collected in a valley a day's journey south of Waldia at an altitude of 6,300 feet.

60506. No. 488. Waldia. December 30, 1923. Found at an altitude of 6,400 feet.

60507. No. 492. January 2, 1924. Growing near the Ala River, a 2-days' journey west of Waldia at an altitude of 8,000 feet.

60508. No. 495. December 31, 1923. Collected a day's journey west of Waldia.

60509. No. 508. Lalibela. January 5, 1924. Found at an altitude of 8,800 feet. Not more than 3½ feet high as compared with 15 to 18 feet in the grain-sorghum valleys east of the escarpment.

60510. No. 547. January 19, 1924. Collected on the border of Lake Tsana a 2-days' journey south of Gondar.

60511 to 60518. January 21, 1924. Types of grain sorghum found in fields about Tsana. No. 549 [S. P. I. No. 60512] apparently does not hybridize, as it is pure on the margin of fields. All other types were picked from the interior of two adjoining fields.

60461 to 60636—Continued.

60511. No. 548. 60515. No. 552.
 60512. No. 549. 60516. No. 553.
 60513. No. 550. 60517. No. 554.
 60514. No. 551. 60518. No. 555.
60519. No. 560. January 23, 1924. Found north of Lake Tsana, a day's journey west of Gondar at an altitude 7,400 feet.
60520. No. 563. Wahini. January 28, 1924.
60521. No. 564. Wahini. January 27, 1924.
60522. No. 567. January 20, 1924. Found at the head of Lake Tsana, a day's journey south of Gondar.
60523. No. 573. Koqui. January 31, 1924.
60524. No. 579. February 4, 1924. Growing in grass, but probably from an old cultivated field near Doka, Sudan.
- 60525 to 60551. *HORDEUM* spp. Poaceæ.
60525. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 No. 443. December 12, 1923. Collected north of Ankober at an altitude of 10,400 feet.
- 60526 and 60527. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.
 December 14, 1923. Collected a 2½-days' journey north of Ankober at an altitude of 10,000 feet.
60528. No. 444. 60527. No. 445.
- 60528 and 60529. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 60528. No. 507. January 2, 1924. Collected a 3-days' journey east of Lalibela at an altitude of 11,100 feet.
60529. No. 515. January 7, 1924. Lalibela market.
60530. *HORDEUM VULGARE COELESTE* L. Six-rowed barley.
 Subvariety *Himalayense*. No. 440. December 13, 1923. From a high valley, a 2-days' journey north of Ankober, at an altitude of 10,000 feet.
60531. *HORDEUM VULGARE DUPLINIGRUM* Koern. Six-rowed barley.
 No. 500. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.
- 60532 to 60535. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.
60532. No. 397. December 7, 1923. Obtained on the road to Ankober, Addis Ababa, at an altitude of 8,500 feet.
60533. No. 398. December 7, 1923. Obtained on the road to Ankober, Addis Ababa, at an altitude of 8,500 feet.
60534. No. 406. December 10, 1923. Obtained a half-day's journey from Ankober at an altitude of 9,600 feet.
60535. No. 434. December 12, 1923. Collected on a ridge above Ankober at an altitude of 10,000 feet.
- 60536 to 60538. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
60536. No. 407. Ankober, December 11, 1923. Purchased in a village.
60537. No. 414. Ankober, December 11, 1923. Purchased in a village.
60538. No. 424. Ankober. December 11, 1923. Purchased in Allu Amba.

60461 to 60636—Continued.

60539. *HORDEUM VULGARE COELESTE* L. Six-rowed barley.
 No. 395. Addis Ababa. December 7, 1923. Collected on the road to Ankober at an altitude of 8,400 feet.
- 60540 to 60546. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
60540. No. 399b. December 8, 1923. From a threshing field on the road to Ankober at an altitude of 9,600 feet.
60541. No. 405. December 9, 1923. Collected a day's journey west of Ankober at an altitude of 9,600 feet.
60542. No. 435. December 12, 1923. Collected on a high ridge above Ankober at an altitude of 11,000 feet.
60543. No. 453. December 15, 1923. Makfud market.
60544. No. 473. Dessie. December 24, 1923. Purchased in the market.
60545. No. 474. Dessie. December 24, 1923. Purchased in the market.
60546. No. 477. Dessie. December 24, 1923. Purchased in the market.
60547. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.
 No. 494a. January 2, 1924. Collected on the Ala River a 2-days' journey west of Waldia at an altitude of 10,000 feet.
60548. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 No. 532. January 13, 1924. From a threshing floor a 2-days' journey east of Debra Tabor at an altitude of 10,600 feet.
- 60549 and 60550. *HORDEUM DEFICIENS* Steud. Deficient barley.
60549. No. 540. January 18, 1924. A sample of barley given to me as horse feed a 3-days' journey south of Gondar.
60550. No. 545. January 19, 1924. Collected on the border of Lake Tsana, a 2-days' journey south of Gondar.
60551. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
 No. 584. February 9, 1924. From the experiment station, Khartum. Native (Beldi) barley.
60552. *IPOMOEA CAIRICA* (L.) Sweet (*I. palmata* Forsk.). Convolvulaceæ.
 No. 479. Dessie. December 23, 1923. Collected in a river bottom at an altitude of 6,500 feet.
60553. *JUNIPERUS PROCERA* Hochst. Pinaceæ. East African cedar.
 No. 498. January 2, 1924. Found on the Ala River at an altitude of 9,000 feet.
60554. *KOSTELETZKYA ADOENSIS* Hochst. Malvaceæ.
 No. 533. January 17, 1924. A flowering herbaceous plant found in the Tsana district a day's journey west of Debra Tabor at an altitude of 7,700 feet.
- 60555 and 60556. *LATHYRUS SATIVUS* L. Fabaceæ. Bitter vetch.
60555. No. 489. Waldia. December 30, 1923. Collected at an altitude of 6,600 feet. Not previously seen.
60556. No. 509. January 4, 1924. Found in small quantity a day's journey east of Lalibela at an altitude of 9,000 feet or over.

60461 to 60636—Continued.

60557. *LENTILLA LENS* (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceæ. Lentil.

No. 421. Ankober. December 11, 1923. Purchased in Allu Amba.

60558 to 60561. *LINUM USITATISSIMUM* L. Linaceæ. Flax.

60558. No. 432. Ankober. December 11, 1923. Purchased in Allu Amba.

60559. No. 455. Makfud. December 15, 1923. From the market.

60560. No. 514. Lalibela. January 7, 1924. From the market.

60561. No. 543. January 19, 1924. Collected on the border of Lake Tsana a 2-days' journey south of Gondar.

60562. *MEDICAGO HISPIDA DENTICULATA* (Willd.) Urban. Fabaceæ. Bur clover.

No. 503. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.

60563. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

No. 585. February 9, 1924. From the experiment station, Khartum, Egypt. Has proved much better than Peruvian or other hot-weather types at Khartum.

60564. *MEIBOMIA* sp. (*Desmodium* sp.). Fabaceæ.

No. 575. January 27, 1924. Seed of a small, broad-leaved legume found in a burned-over area near Wahini. Only one plant seen.

60565. *NIGELLA SATIVA* L. Ranunculaceæ.

No. 449. December 15, 1923. Purchased in the market at Makfud. This market is a large one on a mountain top where there is no town. Grain of the plateau is exchanged for cotton of the valleys and bananas of the lower levels.

60566. *OCIMUM BASILICUM* L. Menthaceæ.

No. 476. Dessie. December 24, 1923. Purchased in the market.

60567. *PANICUM* sp. Poaceæ. Grass.

No. 529. January 12, 1924. Collected on a mountain side a 3-days' journey east of Debra Tabor at an altitude of 9,700 feet.

60568 to 60572. *PENNISETUM* spp. Poaceæ.

60568. *PENNISETUM GLAUCUM* (L.) R. Br. (*P. typhoideum* Rich.). Pearl millet.

No. 580. February 4, 1924. Growing in grass, but probably from an old cultivated field near Doka, Sudan.

60569 and 60570. *PENNISETUM UNISETUM* (Nees) Benth. Grass.

60569. No. 458. December 17, 1923. Collected a 2-days' journey south of Majetie at an altitude of 5,200 to 6,000 feet.

60570. No. 582. February 4, 1924. Collected near Gadaref, Sudan.

60571. *PENNISETUM* sp.

No. 527. January 12, 1924. Collected on the side of a mountain a 3-days' journey east of Debra Tabor at an altitude of 9,700 feet.

60572. *PENNISETUM HORDEIFORME* (L.) Spreng. Grass.

No. 541. January 18, 1924. A branching grass collected a 3-days' journey south of Gondar; stands heavy pasturing in the Tsana Flats.

60573 to 60579. *PHASEOLUS* spp. Fabaceæ.

60461 to 60636—Continued.

60573 and 60574. *PHASEOLUS AUREUS* Roxb. Mung bean.

60573. No. 415. Ankober. December 11, 1923. Presented by Desta Heile. Seed said to swell when cooked and to become soft like butter.

60574. No. 416e. Ankober. December 11, 1923. Presented by Desta Heile.

60575 to 60579. *PHASEOLUS VULGARIS* L. Fabaceæ. Common bean.

60575. No. 413. Ankober. December 11, 1923. Purchased in a village.

60576 to 60578. Ankober. December 11, 1923. Presented by Desta Heile.

60576. No. 416b. Chocolate with black markings.

60577. No. 416c. Dark gray.

60578. No. 416a. White.

60579. No. 428. Ankober. December 11, 1923. Purchased in Allu Amba.

60580. *PHRAGMITES VULGARIS* (Lam.) B. S. P. Poaceæ. Grass.

No. 463. December 18, 1923. Collected in swamp land a day's journey south of Majetie.

60581 to 60584. *PISUM SATIVUM* L. Fabaceæ. Pea.

60581. No. 427. Ankober. December 11, 1923. Purchased in Allu Amba.

60582. No. 475. Dessie. December 24, 1923. Purchased in the market.

60583. No. 522. Lalibela. January 7, 1924. From the market.

60584. No. 439. December 13, 1923. Collected a 2-days' journey from Ankober at an altitude of 10,200 feet.

60585. *ROSA* sp. Rosaceæ. Rose.

No. 404. December 9, 1923. A lavender-flowered plant from a canyon side, near Ankober, at an altitude of 9,500 feet.

60586. *RUBUS* sp. Rosaceæ.

Seeds of unknown origin, accompanying Doctor Harlan's shipment.

60587. *SACCHARUM* sp. Poaceæ. Grass.

No. 464. December 18, 1923. From swamp land a day's journey south of Majetie.

60588 and 60589. *SESAMUM ORIENTALE* L. Pedaliaceæ. Sesame.

60588. No. 429. Ankober. December 11, 1923. Purchased in Allu Amba.

60589. No. 572. Kogui. January 31, 1924.

60590. *TRICHOLOENA ROSEA* Nees. Poaceæ. Natal grass.

No. 459. December 17, 1923. Collected a 2-days' journey south from Majetie at an altitude of 5,200 to 6,000 feet.

60591. *TRICHOPTERYX* sp. Poaceæ. Grass.

No. 565. January 25, 1924. Collected a day's journey west of Chelga.

60592. *TRIFOLIUM PROCUMBENS* L. Fabaceæ.

No. 524. Lalibela, January 7, 1924. Collected on the side of a canyon at an altitude of 8,800 feet.

60593. *TRIFOLIUM* sp. Fabaceæ. Clover.

No. 502. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.

60461 to 60636—Continued.

80594. *TRIFOLIUM* sp. Fabaceæ. Clover.

No. 504. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet.

80595. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceæ. Fenugreek.

No. 518. January 7, 1924. A cultivated legume obtained in the Lalibela market.

60596 to 60625. *TRITICUM* spp. Poaceæ.60596 to 60613. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Common wheat.

60596. No. 12. From Pusa, India.

60597. No. 396. Addis Ababa. December 7, 1923. Secured on the road to Ankober at an altitude of 9,600 feet.

60598. No. 400. December 8, 1923. Collected on the road to Ankober at an altitude of 9,400 feet.

60599. No. 408. Ankober. December 11, 1923. Purple wheat, purchased in a village.

60600. No. 410. Ankober. December 11, 1923. Purchased in a village.

60601. No. 420. Ankober. December 11, 1923. Purchased in Allu Amba.

60602. No. 436. Ankober. December 13, 1923. Wheat found growing at an altitude of 10,400 feet; all seeds above that altitude were barley.

60603. No. 437. Ankober. Collected at an altitude of 10,000 feet. This was the second lot of wheat found.

60604. No. 441. December 14, 1923. Found growing a 3-days' journey north of Ankober at an altitude of 9,000 feet. Stacked with field peas and broad beans.

60605. No. 442. December 14, 1923. Collected a 2-days' journey north of Ankober at an altitude of 10,300 feet.

60606. No. 451. Makfud. December 15, 1923. Obtained in the market.

60607. No. 452. Makfud. December 15, 1923. Obtained in the market.

60608. No. 454. Makfud. December 15, 1923. Obtained in the market.

60609. No. 493. January 2, 1924. Collected on the Ala River a 2-days' journey west of Waldia at an altitude of 9,000 feet.

60610. No. 505. January 3, 1924. Collected a 2-days' journey east of Lalibela at an altitude of 9,500 feet.

60611. No. 511. January 5, 1924. From a threshing floor in Ashatan Mariam, Lalibela, at an altitude of 8,000 feet.

60612. No. 559. January 23, 1924. Collected north of Lake Tsana a day's journey west of Gondar at an altitude of 7,500 feet.

60613. No. 568. January 20, 1924. Found growing at the head of Lake Tsana a day's journey south of Gondar.

60614 to 60616. *TRITICUM DICOCUM* Schrank. Emmer.

60614. No. 471. December 26, 1923. Collected near Dessie at an altitude of 7,200 feet.

60615. No. 491. January 2, 1924. Collected on the Ala River, a 2-days' journey west of Waldia, at an altitude of 9,000 feet.

60616. No. 576. Record lost, but obviously from the plateau.

60617 and 60618. *TRITICUM TURGIDUM* L. Poulard wheat.

60461 to 60636—Continued.

60617. No. 525. January 12, 1924. Found growing a 3-days' journey east of Debra Tabor at an altitude of 9,800 feet.

60618. No. 558. January 23, 1924. Collected north of Lake Tsana a day's journey west of Gondar, at an altitude of 7,500 feet.

60619. *TRITICUM* spp. Wheat.

No. 469. December 23, 1923. Mixed seed found growing a 2-days' journey south of Dessie—the first small grain found above the sorghum belt.

60620. *TRITICUM TURGIDUM* L. Poulard wheat.

No. 470. December 23, 1923. Found growing a 2-days' journey south of Dessie—the first small grain found above the sorghum belt.

60621. *TRITICUM* spp. Wheat.

No. 480. Dessie. December 24, 1923. Mixed seed purchased in the market.

60622. *TRITICUM* spp. Wheat.

No. 490. January 2, 1924. Mixed seed found on the Ala River a 2-days' journey west of Waldia at an altitude of 10,000 feet.

60623. *TRITICUM* spp. Wheat.

No. 494b. January 2, 1924. Mixed seed found on the Ala River a 2-days' journey west of Waldia at an altitude of 10,000 feet.

60624. *TRITICUM* spp. Wheat.

No. 499. January 3, 1924. Mixed seed collected a 2-days' journey east of Lalibela at an altitude of 10,000 feet. Ice, which probably forms every night, was seen one hour after sunrise beside emmer fields that were in the best of condition.

60625. *TRITICUM* spp. Wheat.

No. 526. January 11, 1924. Mixed seed found a 4-days' journey east of Debra Tabor at an altitude of 9,800 feet.

60626 to 60630. *VICIA FABA* L. Fabaceæ. Broad bean.

60626. No. 409. Ankober. December 11, 1923. Purchased in a village.

60627. No. 411. Ankober. December 11, 1923. Purchased in a village.

60628. No. 425. Ankober. December 11, 1923. Purchased in Allu Amba.

60629. No. 516. Lalibela. January 7, 1924. Obtained in the market.

60630. No. 569. January 20, 1924. Collected at the head of Lake Tsana a day's journey south of Gondar.

60631. *VICIA* sp. Fabaceæ. Vetch.

No. 447. Makfud. December 15, 1923. Found in a rocky waste place at an altitude of 9,000 feet.

60632. *VIGNA CYLINDRICA* (Stickm.) Skeels. Fabaceæ. Catjang.

No. 416d. Ankober. December 11, 1923. Presented by Desta Heile.

60633. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.

No. 571. Kowui. January 31, 1924.

60634 and 60635. *ZEA MAYS* L. Poaceæ. Corn.

60634. No. 433. Ankober. December 11, 1923. Purchased in Allu Amba.

60635. No. 480. Dessie. December 24, 1923. Purchased in the market.

60636. (Undetermined.)

No. 574. Record lost, but probably seed of sweet-scented flowering tree in the Tsana region.

60637 to 60648.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 6, 1924.

60637 to 60639. *BERBERIS* spp. Berberidaceæ.
Barberry.60637. *BERBERIS INSIGNIS* Hook. f. and Thoms.

A beautiful hollylike bush of erect habit, with very few spines and large, shining, evergreen leaves 3 to 7 inches in length. The golden-yellow flowers are borne in clusters of about 15 and are followed by ovoid, black berries. Native to the eastern Himalayas.

For previous introduction, see S. P. I. No. 55671.

60638. *BERBERIS NAPAULENSIS* (DC.) Spreng.

An evergreen shrubby Himalayan barberry which is probably too tender for any but the southern sections of the United States. In its native home it becomes 20 feet in height, and the dark, glossy green compound leaves consist of 15 to 20 spine-toothed, leathery leaflets. The yellow flowers are in slender racemes up to a foot in length, and the roundish berries are covered with a bluish white bloom.

For previous introduction, see S. P. I. No. 57884.

60639. *BERBERIS WALLICHIANA* DC.

A narrow-leaved, evergreen barberry from temperate regions in the Himalayas, where it ascends to about 10,000 feet. The shining black-purple berries are produced in dense clusters.

For previous introduction, see S. P. I. No. 55673.

60640. *BETULA CYLINDROSTACHYA* Wall. Betulaceæ.

A Himalayan birch which grows as a tall, deciduous tree at an altitude of 6,000 feet along the northeastern border of India. The wood is red, hard, and heavy and seasons well. The tree might be sufficiently hardy to grow in parts of Florida and California.

For previous introduction, see S. P. I. No. 39002.

60641. *BUCKLANDIA POPULNEA* R. Br. Hamamelidaceæ.

A large evergreen tree, 80 feet or less in height, native to the eastern Himalayas at altitudes of 3,000 to 8,000 feet. The wood is grayish brown, close grained, and durable, and is commonly used in Darjiling for planking and for doors and window frames.

For previous introduction, see S. P. I. No. 55674.

60642. *CRACCA CANDIDA* (DC.) Kuntze (*Teuphrosia candida* DC.). Fabaceæ.

A low shrub with slender velvety branches, smooth green leaves 6 to 9 inches long, with gray silky lower surfaces, and copious terminal and lateral clusters of reddish or white flowers. It is native to the more tropical of the Himalayas, ascending to 5,000 feet altitude.

For previous introduction, see S. P. I. No. 55678.

60643. *ENGELHARDTIA SPICATA* Leschen. Juglandaceæ.

This large, handsome tree, which belongs to the walnut family, grows wild on the foothills of the eastern Himalayas, and is probably adapted for growing only in the Gulf States. The thick, brown bark contains much tannin, and the wood, which is said not to check, shows a beautiful grain.

For previous introduction, see S. P. I. No. 47842.

60637 to 60648—Continued.

60644. *GAULTHERIA FRAGRANTISSIMA* Wall. Ericaceæ.

A very fragrant evergreen shrub or small tree found in the mountains of India from Nepal eastward to Bhutan. In summer it is loaded with white or pinkish flowers which are followed by beautiful racemes of blue-purple fruits.

For previous introduction, see S. P. I. No. 48309.

60645. *HYDRANGEA ROBUSTA* Hook. f. and Thoms. Hydrangeaceæ.

A vigorous, spreading, shrubby hydrangea which is native to the mountainous regions of northeastern India, and therefore probably best adapted to the southern part of the United States. The short-stemmed, oval leaves are coarsely toothed, and the flowers, with white sepals, blue petals, and stamens, are produced in loose, spreading corymbs with red pedicels.

For previous introduction, see S. P. I. No. 55681.

60646. *ILEX INSIGNIS* Hook. f. Aquifoliaceæ.

An attractive holly from the Sikkim Himalayas where it grows at an altitude of 7,000 feet. It forms a small tree or shrub with thick grooved branches which are purplish when young. The dark-green leathery leaves are pinnately lobed, with lobes spine tipped and alternately raised and depressed, so that there appears to be a double row of spiny lobes on each side. This holly has proved hardy in Ireland and may be suited for growing in the Gulf States and southern California.

For previous introduction, see S. P. I. No. 55682.

60647. *INDIGOFEA DOSUA TOMENTOSA* Baker. Fabaceæ.

A low, shrubby, hairy indigo from the temperate parts of the Himalayas, where it grows at altitudes of 1,000 to 5,000 feet. The dull-green compound leaves, 9 inches in length, and the long racemes of bright-red flowers make this a decidedly ornamental species.

For previous introduction, see S. P. I. No. 55748.

60648. *LAGERSTROEMIA PARVIFLORA* Roxb. Lythraceæ.

This Himalayan relative of the crape myrtle (*Lagerstroemia indica*) is a tree 50 to 70 feet high, with green, leathery leaves and fragrant white flowers, half an inch wide, in axillary or terminal panicles. The wood is very tough and durable.

For previous introduction, see S. P. I. No. 53582.

60649. *COTONEASTER SALICIFOLIA FLOCCOSA* Rehd. and Wils. Malaceæ.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered June, 1924.

A graceful shrub, up to 13 feet high, which bears dense corymbs of white flowers and light-red roundish fruits. Native to western China at altitudes of 7,500 to 9,800 feet.

For previous introduction, see S. P. I. No. 53693.

60650 to 60659.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 6, 1924.

60650. *LEUCOSCEPTRUM CANUM* J. E. Smith. Menthaceæ.

According to Hooker (Flora of British India) this tree, which belongs to the mint family, is stout branched and densely hairy, and the narrowly oval leaves are silvery beneath and at times a foot in length. The small white or pinkish flowers are in spikes.

For previous introduction, see S. P. I. No. 57888.

60650 to 60659—Continued.

60651. *LIGUSTRUM CONFUSUM* Decaisne. Oleaceæ.

A small tree, up to 40 feet in height, one of the tropical relatives of the California privet (*Ligustrum ovalifolium*). The leathery, obtuse leaves are about 3 inches long, and the small white flowers are in panicles 1 to 5 inches long.

60652. *MEIBOMIA SEQUAX* (Wall.) Kuntze (*Desmodium sequax* Wall.). Fabaceæ.

The brownish or grayish hairs which cover the branches of this low Himalayan shrub and the large racemes of red flowers make it of possible value as an ornamental for the warmer parts of the United States.

For previous introduction, see S. P. I. No. 47725.

60653. *PIERIS OVALIFOLIA* (Wall.) D. Don (*Andromeda ovalifolia* Wall.). Ericaceæ.

Although this shrub or small tree may prove of value as a semihardy ornamental because of its racemes of bluish or white flowers, it is used as an insecticide in its native country, India, because of the presence of a poisonous principle in the young leaves and buds. The oblong, leathery leaves are 3 to 6 inches long.

For previous introduction, see S. P. I. No. 47755.

60654. *PRUNUS CERASOIDES* D. Don (*P. pudum* Roxb.). Amygdalaceæ.

A handsome, ornamental cherry with pendulous rose-red or white solitary flowers which appear before the bright, glossy green leaves. The tree is native to the highlands of Burma and is said to endure light frosts in its native country.

For previous introduction, see S. P. I. No. 57680.

60655. *RHODODENDRON ARBOREUM* J. E. Smith. Ericaceæ.

This Himalayan rhododendron is variable both in its foliage and in the color of its flowers. In one form the leaves are silvery on the lower surface, while in another they are covered with a brownish red down. The bell-shaped flowers, borne in dense trusses, vary from deep crimson to pure white. The tree sometimes reaches a height of 35 feet, with a trunk 4 feet in circumference.

For previous introduction, see S. P. I. No. 55697.

60656. *STYRAX HOOKERI* C. B. Clarke. Styracaceæ.

The storaxes in general are handsome shrubs of graceful, spreading habit, and this Himalayan representative of the genus is no exception to the rule. Its white flowers, in small racemes, are sometimes an inch wide, and the fruits are white-hairy drupes half an inch long. According to Hooker (Flora of British India) this is perhaps only a form of *Styrax serrulatum*.

60657. *VACCINIUM DUNALIANUM* Wight. Vacciniaceæ.

Many of the wild species of *Vaccinium* are being tested by department horticulturists for the purpose of determining the food value of the fruits. This species is a large erect shrub from the mountainous regions of northeastern India, and it will probably not withstand much frost.

For previous introduction, see S. P. I. No. 47821.

60658. *ZANTHOXYLUM ACANTHOPODIUM* DC. Rutaceæ.

A shrub or small tree with vertically flattened prickles on the trunk and branches and dense foliage with a pungent, aromatic odor. The small, pale-red fruits are in loose panicles. Native to warm valleys in the subtropical Himalayas at altitudes of 4,000 to 7,000 feet.

60650 to 60659—Continued.

60659. *ZANTHOXYLUM OXYPHYLLUM* Edgeworth. Rutaceæ.

A Himalayan shrub with the branches and leaves covered with hooked prickles; the leaves are shining green and exceedingly variable in size. This species is native to temperate regions in northeastern India at altitudes of 4,000 to 8,000 feet.

60660 to 60674. *HORDEUM* spp. Poaceæ.

From Ariana, near Tunis, Tunisia, Africa. Seeds presented by Dr. F. Boeuf, chief, Botanical Service, Tunis, through H. V. Harlan, Bureau of Plant Industry. Received June 16, 1924. Notes by Doctor Boeuf.

Introduced for cereal specialists.

60660 to 60673. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

60660. 1921-0.9. Tripoli.

60661. 1921-0.10. Tripoli. For forage.

60662. No. 20. Egypt.

60663. 1921-0.7. Tripoli.

60664. 1921-0.4. Tripoli.

60665. *Revil* No. 1. For forage.

60666. No. 4a.

60667. No. 14j.

60668. No. 88. Smyrna.

60669. No. 147-0.13. Besert.

60670. No. 147-0.14. Besert.

60671. No. 167. Biskra.

60672. No. 175. Morocco.

60673. No. 186.

60674. *HORDEUM INTERMEDIUM HAXTONI* Koern. Barley.
No. 149. *Arlington Awnless*.

60675 to 60743.

From Giza, Egypt. Seeds presented by the Ministry of Agriculture, Giza, through H. V. Harlan, Bureau of Plant Industry. Received June 16, 1924.

60675 to 60701. *HORDEUM* spp. Poaceæ.

60675 to 60682. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

60675. *Beladi*. (Egyptian.)

60676. *Herrawi*. (Egyptian.)

60677. *Herrawi*. (Egyptian.) Received from the provinces.

60678. *Qennari*. (Egyptian.) Received from Beheira Province.

60679. *Indian*. Four rowed.

60680. *Indian*. Six rowed.

60681. *Mariout*. (Egyptian.) Received from Beheira Province.

60682. *Mnari*. (Egyptian.) Received from Giza Province. Probably the same as *Qennari* [S. P. I. No. 60678.]

60683 to 60692. *HORDEUM* spp.

Abyssinia.

60683. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

No. 1.

60684. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.

No. 2.

60675 to 60743—Continued.

60685. HORDEUM VULGARE NIGRUM (Willd.)
Beaven. Six-rowed barley.
No. 3.
60686. HORDEUM VULGARE PALLIDUM Ser-
inge. Six-rowed barley.
No. 5.
60687. HORDEUM VULGARE PALLIDUM Ser-
inge. Six-rowed barley
No. 6.
60688. HORDEUM VULGARE PALLIDUM Ser-
inge. Six-rowed barley.
No. 7.
60689. HORDEUM VULGARE DUPLINIGRUM
Koern. Six-rowed barley.
No. 8.
60690. HORDEUM VULGARE COELESTE L.
Six-rowed barley.
No. 8a.
60691. HORDEUM VULGARE COELESTE L.
Six-rowed barley.
No. 9.
60692. HORDEUM DEFICIENS Steud.
Deficient barley.
No. 11.
60693. HORDEUM DISTICHON NUDUM L.
Naked barley.
No. 12.
- 60694 to 60699. HORDEUM spp.
Abyssinia.
60694. HORDEUM DEFICIENS Steud.
Deficient barley.
No. 13.
60695. HORDEUM DEFICIENS STEUDELII
(Koern.) Harlan. Deficient barley.
No. 14.
60696. HORDEUM DEFICIENS Steud.
Deficient barley.
No. 15.
60697. HORDEUM DEFICIENS STEUDELII
(Koern.) Harlan. Deficient barley.
No. 16.
60698. HORDEUM VULGARE PALLIDUM Ser-
inge. Six-rowed barley.
No. 18.
60699. HORDEUM VULGARE NIGRUM (Willd.)
Beaven. Six-rowed barley.
No. 19.
60700. HORDEUM VULGARE COELESTE L.
Six-rowed barley.
Nebawi. (Egyptian.)
60701. HORDEUM DISTICHON PALMELLA Harlan.
Two-rowed barley.
Sinai.
- 60702 to 60743. TRITICUM spp. Poaceæ.
- 60702 and 60703. TRITICUM AESTIVUM L. (*T. vulgare* Vill.).
Common wheat.
60702. *Sinai* No. 4.
60703. *Sinai* No. 5.
- 60704 to 60706. TRITICUM DICOCCUM Schrank.
Emmer.
Abyssinia.
60704. No. 16. 60706 No. 18.
60705. No. 17.
- 60707 to 60712. TRITICUM DURUM Desf.
Durum wheat.

60675 to 60743—Continued.

- 60707 to 60711. *Abyssinia*.
60707. No. 6. 60710. No. 29.
60708. No. 25. 60711. No. 30.
60709. No. 27.
60712. *Gawi*, which is also "Beladi" or native
Egyptian wheat.
- 60713 to 60715. TRITICUM TURGIDUM L.
Poulard wheat.
60713. *Beladi* No. 42.
60714. *Sinai* No. 1.
60715. *Sinai* No. 2.
- 60716 to 60723. TRITICUM DURUM Desf.
Durum wheat.
Abyssinia.
60716. No. 2. 60720. No. 11.
60717. No. 3. 60721. No. 12.
60718. No. 9. 60722. No. 15.
60719. No. 10a. 60723. No. 20.
60724. TRITICUM TURGIDUM L. Poulard wheat.
No. 21.
60725. TRITICUM AESTIVUM L. (*T. vulgare* Vill.).
Common wheat.
No. 26a.
- 60726 and 60727. TRITICUM DURUM Desf.
Durum wheat.
60726. No. 28. 60727. No. 31.
60728. TRITICUM AESTIVUM L. (*T. vulgare* Vill.).
Common wheat.
No. 43.
60729. TRITICUM TURGIDUM L. Poulard wheat.
No. 44.
- 60730 to 60739. TRITICUM DURUM Desf.
Durum wheat.
Beladi.
60730. No. 9. 60735. No. 31.
60731. No. 24b. 60736. No. 33.
60732. No. 25. 60737. No. 33a.
60733. No. 25a. 60738. No. 45.
60734. No. 26.
60739. *Fayum A*, which is also called "Be-
ladi" or native Egyptian wheat.
60740. TRITICUM sp. Wheat.
Sinai. No. 3.
- 60741 to 60743. TRITICUM DURUM Desf.
Durum wheat.
60741. No. 5. 60743. No. 9.
60742. No. 8.
- 60744 to 60956.
- From Leningrad, Russia. Seeds presented by Dr.
N. I. Vavilov, director of the Bureau of Applied
Botany and Plant Breeding. Received June
19, 1924. Notes by Doctor Vavilov.
- 60744 and 60745. AGROPYRON CRISTATUM (L.)
Gaertn. Poaceæ. Wheat grass.
60744. No. 1733. Province of Moscow. A
broadly spicate variety from the experiment
station of Krasny Kut.
60745. No. 1732. Province of Samara. A
narrowly spicate variety from the experiment
station of Krasny Kut.
- 60746 and 60747. AGROSTIS PALUSTRIS Huds. Po-
aceæ. Redtop.

60744 to 60956—Continued.

60746. No. 1762. Province of Tambov. From the grassland station of Marusino.
60747. No. 1875. Province of Moscow. From the State Institution for Grassland Investigations.
- 60748 and 60749. *ALOPECURUS PRATENSIS* L. Poaceæ. Meadow foxtail.
60748. No. 1463. Province of Moscow. From the Bekasovskaia Experiment Station.
60749. No. 1468. Province of Moscow. From the Bekasovskaia Experiment Station.
60750. *ANTHOXANTHUM ODORATUM* L. Poaceæ. Sweet vernal grass.
- No. 57. Estate "Castle Zagnitz," Livland.
- 60751 to 60770. *AVENA SATIVA* L. Poaceæ. Oats.
60751. No. 1181. Province of Samara.
60752. No. 1249. Semiretsh, Turkestan.
60753. No. 1250. Syr Daria, Turkestan.
60754. No. 1253. Province of Samara. A very early variety.
60755. No. 1256. Province of Saratov.
60756. No. 1254. Province of Saratov.
60757. No. 1286. Province of Samara.
60758. No. 1311. Province of Kherson. *Rychlik*.
60759. No. 1425. Province of Don. *Armavirsky*.
60760. No. 1433. Province of Yeniseisk, Siberia.
60761. No. 1435. Province of Yeniseisk, Siberia.
60762. No. 1445. Province of Vologda.
60763. No. 1506. Province of Astrakhan.
60764. No. 1526. Semipalatinsk, Turkestan.
60765. No. 1547. Province of Tobolsk, Siberia.
60766. No. 1550. Province of Tobolsk, Siberia.
60767. No. 1581. Semiretsh, Turkestan. An irrigated variety.
60768. No. 2306. Province of Tula. An improved variety.
60769. No. 2896. Province of Viatka. *Tshervonny*. A selection taken from *Triticum dicoccum*.
60770. No. 2149. Province of Simbirsk.
- 60771 and 60772. *BECKMANNIA ERUCAEFORMIS* (L.) Host. Poaceæ. Slough grass.
60771. No. 458. Estate "Castle Zagnitz," Livland.
60772. No. 2025. Province of Poltava. From the Berezhototshskaia Experiment Station.
- 60773 to 60793. *BRASSICA* spp. Brassicaceæ.
- 60773 and 60774. *BRASSICA ALBA* (L.) Boiss. White mustard.
60773. No. 68. Province of Saratov.
60774. No. 321. Province of Orel.
- 60775 and 60776. *BRASSICA JUNCEA* (L.) Coss. Mustard.
60775. No. 28. Province of Astrakhan. *Sarepta*.
60776. No. 33. Province of Saratov. *Sarepta*.
- 60777 to 60789. *BRASSICA OLERACEA CAPITATA* L. Cabbage.
- Province of Moscow.
60777. No. 242. Dubrovskaja.
60778. No. 243. Valvatievka.

60744 to 60956—Continued.

60779. No. 244. Rogatshevka.
60780. No. 245. Kubyska.
60781. No. 246. Bunkovskaia.
60782. No. 247. Maklakovskaia.
60783. No. 248. Elginskaia.
60784. No. 249. Slava (= Glorija).
60785. No. 250. Zaborievskaja.
60786. No. 251. Saburovka.
60787. No. 252. Savinskaia.
60788. No. 253. A local variety; head on shortened stump.
60789. No. 254. A local variety; head on long stump.
- 60790 to 60793. *BRASSICA RAPA* L. Turnip.
- Province of Moscow.
60790. No. 30. *Kostenevskaja*. Experiment Station of Gribovo.
60791. No. 115. *Petrovskaja*. Flat yellow. A very early variety.
60792. No. 117. *Petrovskaja*. Flat yellow. An early variety.
60793. No. 118. *Petrovskaja*. Flat yellow. An early variety.
- 60794 and 60795. *BROMUS INERMIS* Leyss. Poaceæ. Brome grass.
60794. No. 1911. Province of Saratov.
60795. No. 2029. Province of Poltava. From the Berezhototshskaia Experiment Station. A local wild variety.
- 60796 to 60817. *CANNABIS SATIVA* L. Moraceæ. Hemp.
60796. No. 251. Province of North Dvinsk (Archangel).
60797. No. 278. Province of Saratov. A variety of wild hemp.
60798. No. 345. Province of Saratov.
60799. No. 349. Province of Moscow.
60800. No. 360. Province of Irkutsk.
60801. No. 368. Province of Kaluga.
60802. No. 369. Province of Voronezh.
60803. No. 388. Province of Orel.
60804. No. 400. Province of Kostroma. A local variety.
60805. No. 402. Province of Viatka.
60806. No. 403. Province of Yakutsk.
60807. No. 406. Province of Pensa.
60808. No. 420. Caucasus.
60809. No. 426. Province of Vologda.
60810. No. 427. Province of Perm.
60811. No. 428. Province of Altai, Siberia.
60812. No. 431. Tyumen, Siberia.
60813. No. 440. Province of Yakutsk, eastern Siberia.
60814. No. 444. Primorskaia Province.
60815. No. 455. Province of Tambov.
60816. No. 459. Province of Poltava.
60817. No. 464. Province of Gornel.
- 60818 to 60821. *CICER ARIETINUM* L. Fabaceæ. Chick-pea.

60744 to 60956—Continued.

60818. No. 1. Province of Samara. From the experiment station of Krasny Kut.
60819. No. 3. From Persia. Var. *Feizabab*.
60820. No. 6. Pamir, Shid Roshan.
60821. No. 7. Bokhara, Vantch.
- 60822 to 60828. CITRULLUS VULGARIS Schrad. Cucurbitaceæ. Watermelon.
60822. No. 287. Province of Ekaterinoslav. Black-whisker variety.
60823. No. 288. Province of Ekaterinoslav. *Azhinovski*.
60824. No. 289. Province of Ekaterinoslav. *Crimean Conqueror*.
60825. No. 291. Province of Saratov. *Murashka*. An early, extremely sweet variety.
60826. No. 295. Province of Kherson. *Cher-sonski*.
60827. No. 296. Province of Ekaterinoslav. *Favorite of Pjatigorsk*.
60828. No. 307. Province of Don. A spotted variety.
- 60829 to 60835. CUCUMIS MELO L. Cucurbitaceæ. Melon.
60829. No. 338. Province of Ekaterinoslav. A Crimean variety.
60830. No. 348. Kubani.
60831. No. 355. Kubani.
60832. No. 356. Province of Astrakhan. *Ananas*.
60833. No. 358. Province of Astrakhan. *Bucharka*.
60834. No. 360. Province of Saratov. An early variety.
60835. No. 361. Province of Saratov. *Pink honey*.
- 60836 to 60841. CUCURBITA MAXIMA Duchesne. Cucurbitaceæ. Squash.
60836. No. 443. Province of Saratov. *Volzhaska*.
60837. No. 444. Province of Samara. *Volzhanka*.
60838. No. 447. Province of Astrakhan.
60839. No. 450. Turkestan.
60840. No. 465. Province of Saratov. Turban variety.
60841. No. 466. Province of Moscow. Giant marble variety.
- 60842 and 60843. CUCURBITA PEPO L. Cucurbitaceæ. Pumpkin.
60842. No. 410. Province of Kharkof. A naked-seeded variety.
60843. No. 462. Province of Saratov.
- 60844 and 60845. DACTYLIS GLOMERATA L. Poaceæ. Orchard grass.
60844. No. 1633. Province of Kostroma, District of Nerechta. Seed nursery of Shachmatovo.
60845. No. 1673. Province of Tver. Seed nursery of Shokorovskig.
- 60846 to 60849. FESTUCA ELATIOR L. Poaceæ. Meadow fescue.
60846. No. 1076. Province of Petrograd. Seed nursery of Sivoritzkig.
60847. No. 1621. Province of Vologda. San-
nikov seed husbandry.

60744 to 60956—Continued.

60848. No. 1677. Province of Tver. Seed nursery of Shokorovskig.
60849. No. 2034. Province of Poltava. Berezo-
totshskaia Experiment Station.
60850. FESTUCA OVINA L. Poaceæ. Sheep's fescue.
No. 1345. Province of Vologda.
60851. FESTUCA RUBRA L. Poaceæ. Red fescue.
No. 1170. Province of Irkutsk. Experiment station of Tulun.
60852. GOSSYPIMUM HERBACEUM L. Malvaceæ. Cotton.
- No. 109. *Guza*. A local Turkestan variety.
60853. HELIANTHUS ANNUUS L. Asteraceæ. Sunflower.
No. 187. A selected type by the experiment station of Saratov.
- No. 188. A variety from the experiment station of Saratov.
- No. 189. From the experiment station of Saratov.
- No. 278. Province of Yeniseisk, Siberia.
- No. 279. Province of Semipalatinsk, Tur-
kestan.
- Nos. 280, 281, 282. Province of Primorskaia.
- No. 283. Manchuria.
- No. 284. Turkestan.
- No. 285. Province of Yeniseisk, District of Minusinsk, Siberia.
- Nos. 289 and 290. Province of Tambov.
- Nos. 293 and 294. Province of Voronezh.
60854. LATHYRUS SATIVUS L. Fabaceæ. Bitter vetch.
No. 2092. Mountain Buchar. Var. *azureus*.
- 60855 to 60861. LENTILLA LENS (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceæ. Lentil.
60855. No. 8. Persia.
60856. No. 15. Daghestan.
60857. No. 19. Bokhara.
60858. No. 181. Mongolia.
60859. No. 244. Province of Kief.
60860. No. 263. Province of Pensa.
60861. No. 303. Province of Saratov.
- 60862 to 60871. LINUM USITATISSIMUM L. Lina-
ceæ. Flax.
60862. No. 4. Vitebsk. Fiber flax.
60863. No. 5. Ribinsk. Fiber flax.
60864. No. 132. Tver. Fiber flax.
60865. No. 250. Pskov. Fiber flax.
60866. No. 253. Saratov. Oil flax.
60867. No. 460. Dvinsk. Fiber flax.
60868. No. 512. Vologda. Fiber flax.
60869. No. 523. Pskov. Fiber flax.
60870. No. 524. Pskov. Fiber flax.
60871. No. 633. Stavropol, Caucasus. Oil flax.
60872. LOLIUM MULTIFLORUM Lam. Poaceæ. Italian rye grass.
No. 1516. Province of Moscow. Bekasovskaia Experiment Station.
- 60873 and 60874. LOLIUM PERENNE L. Poaceæ. Perennial rye grass.

60744 to 60956—Continued.

60873. No. 819. Province of Tambov. Grass-land station of Marusino.
60874. No. 1863. Province of Moscow. State Institution for Grassland Investigations.
60875. *LOTUS CORNICULATUS* L. Fabaceæ.
No. 1861. Province of Moscow. State Institution for Grassland Investigations.
60876. *MEDICAGO FALCATA* L. Fabaceæ.
No. 1741. Province of Samara. Experiment station of Krasny Kut.
- 60877 and 60878. *MEDICAGO SATIVA* L. Fabaceæ.
Alfalfa.
60877. No. 1769. Kuban, District of Armavir.
60878. No. 1771. Chiva.
60879. *ONOBRYCHIS VULGARIS* Hill (*O. viciaefolia* Scop.). Fabaceæ.
No. 1916. Province of Poltava.
60880. *ORNITHOPUS SATIVUS* Brot. Fabaceæ.
Serradella.
No. 1866. Province of Tshernigov.
60881. *PHALARIS ARUNDINACEA* L. Poaceæ.
Reed canary grass.
No. 2030. Province of Poltava.
- 60882 to 60887. *PHLEUM PRATENSE* L. Poaceæ.
Timothy.
60882. No. 1655. Province of Ekaterinburg.
60883. No. 1676. Province of Tver.
60884. No. 1715. Province of Tambov.
60885. No. 1930. Province of Vologda.
60886. No. 1946. Province of Yaroslav.
60887. No. 2059. Province of Tambov.
- 60888 to 60935. *PISUM SATIVUM* L. Fabaceæ. Pea.
60888. No. 209. Omsk, western Siberia.
60889. No. 240. Daghestan. A local, unimproved gray variety.
60890. No. 241. Province of Riazan. A local unimproved white variety.
60891. No. 280. Province of Saratov. A local unimproved variety.
60892. No. 943. Archangel, North Dvinsk. A local unimproved variety.
60893. No. 966. East Mongolia. A local unimproved variety collected on the Mongolian expedition.
60894. No. 972. Collected on the Mongolian expedition.
60895. No. 1097. Province of Vladimir. A local unimproved mixed variety.
60896. No. 1098. Province of Tsheliabinsk. A local unimproved mixed variety.
60897. No. 1099. Province of Ekaterinburg. A local unimproved mixed variety.
60898. No. 1101. Province of Kaluga. A local unimproved mixed variety.
60899. No. 1105. Province of Pskov. A local unimproved variety.
60900. No. 1108. Province of Perm. A local unimproved variety.
60901. No. 1118. Province of Tyumen. A local unimproved variety.
60902. No. 1119. Province of Vitebsk. A local unimproved variety.

60744 to 60956—Continued.

60903. No. 1121. Province of Yaroslav. A local unimproved variety.
60904. No. 1131. Province of Smolensk. A local unimproved variety.
60905. No. 1435. Province of Kostroma. A local unimproved variety.
60906. No. 1529. Province of Archangel. A local unimproved variety.
60907. No. 1591. Archangel, North Dvinsk.
60908. No. 1625. The Tartarian Republic, Kazan. A local unimproved mixed variety.
60909. No. 1643. Province of Pskov. A local unimproved variety.
60910. No. 1651. Province of Smolensk. *Pel-jushka*. Engelgardt Experiment Station.
60911. No. 1767. Voronezh. *Asparagus*. Experiment station of the Bureau of Applied Botany and Plant Breeding. A spotted variety selected by Dr. A. I. Malzev.
- 60912 to 60935. *PISUM SATIVUM* L. Fabaceæ.
Pea.
60912. No. 19. Omsk, western Siberia.
60913. No. 316. Province of Irkutsk. *The hybrid of Tulun*. A selection by Dr. V. E. Pissarev, of the Eastern Siberian Experiment Station.
60914. No. 1106. Gorskaia (Mountain) Republic, Caucasus. A local unimproved variety.
60915. No. 1115. Volhynia.
60916. No. 1537. Manchuria.
60917. No. 1538. Manchuria.
60918. No. 1549. Altai, Siberia. A local unimproved variety.
60919. No. 1541. Far East, Siberia. A green variety.
60920. No. 1563. Province of Yakutsk, eastern Siberia. A local unimproved variety.
60921. No. 1564. Province of Tyumen. A local unimproved mixed variety.
60922. No. 1624. Province of Samara. *Victoria*.
60923. No. 1629. Turkestan. A local unimproved variety.
60924. No. 1634. Semipalatinsk. A local unimproved variety.
60925. No. 1649. Province of Gomel.
- 60926 to 60935. Voronezh. Experiment station of the Bureau of Applied Botany and Plant Breeding. Selections by Dr. A. I. Malzev.
60926. No. 1751.
60927. No. 1752. *Victoria*. A green variety.
60928. No. 1755. A yellow variety.
60929. No. 1756. An early variety from Rostov.
60930. No. 1758. A pink-seeded variety.
60931. No. 1762. A grainlike variety.
60932. No. 1764. A sugar variety.
60933. No. 1765. A waxen variety.
60934. No. 1768. An umbelliferous variety.
60935. No. 1772. *Victoria*. An angular variety.

60744 to 60956—Continued.

60936. *POA PALUSTRIS* L. Poaceæ.

Fowl meadow grass.

No. 353. Estate "Castle Zagnitz," Livland.

60937. *POA PRATENSIS* L. Poaceæ. Bluegrass.

No. 1070. Province of Petrograd.

60938. *RICINUS COMMUNIS* L. Euphorbiaceæ.

Castor bean.

Nos. 83, 89, 90, 95, 96, 97, 98, 101, 106, 108, 109.
Collection of different strains of the castor bean of
Turkestan origin.60939. *SESAMUM ORIENTALE* L. Pedaliaceæ.

Sesame.

Nos. 1-13, 16-40. Collection of different varie-
ties of sesame originating in Turkestan.60940 and 60941. *TRIFOLIUM HYBRIDUM* L. Faba-
ceæ. Alsike clover.60940. No. 1484. Province of Moscow. Beka-
sovskaja Experiment Station.

60941. No. 1758. Province of Tambov.

60942 to 60952. *TRIFOLIUM PRATENSE* L. Fabaceæ.
Red clover.

60942. No. 1624. Province of Vologda.

60744 to 60956—Continued.

60943. No. 1639. Province of Viatka.

60944. No. 1650a. Province of Perm, Kungur.

60945. No. 1659. Province of Krasnoufimsk.

60946. No. 1664. Province of Ivanovo Vos-
nesensk.

60947. No. 1684. Province of Tula.

60948. No. 1685. Province of Orel.

60949. No. 1686. Province of Orel.

60950. No. 1719. Province of Minsk.

60951. No. 2000. Province of Ekaterinburg. A
variety from Perm.

60952. No. 2007. Province of Vladimir.

60953. *TRIFOLIUM SUAVEOLENS* Willd. Faba-
ceæ. Fragrant clover.

No. 1841. Turkestan.

60954 to 60956. *VICIA SATIVA* L. Fabaceæ.
Bitter vetch.

60954. No. 112. Saratov.

60955. No. 315. Saratov.

60956. No. 505. Kharkof. From the experi-
ment station.

INDEX OF COMMON AND SCIENTIFIC NAMES

- Abacá, *Musa textilis*, 60421-60424.
 Abutilon sp., 60461.
 Acacia spp., 60369, 60388.
 auriculaeformis, 59672.
 seyal, 59651.
 suma, 59652.
 Aconitum spp., 59000, 59001.
 forrestii, 59403.
 Adansonia digitata, 59673.
 Aeschynomene indica, 59294.
 Agave sp., 60225.
 Agropyron cristatum, 60744, 60745.
 Agrostis capillaris, 60417.
 palustris, 60746, 60747.
 Albizzia sp., 60389.
 Aleurites moluccana, 59301.
 triloba. See *A. moluccana*.
 Alfalfa, *Medicago sativa*, 59774, 60563, 60877, 60878.
 Allium spp., 59404, 59701.
 albidum, 59346.
 angulosum, 59347.
 cepa, 59330, 59650.
 fistulosum, 60226.
 hymenorrhizum, 60227.
 karatawiense, 60228.
 libani, 59348.
 lineare, 59349.
 obliquum, 59340.
 odorum, 59386, 60229.
 polyphyllum, 60230.
 sacculiferum, 59350.
 schoenoprasum, 59691.
 scorodoprasum, 59387.
 scorodoprasum babingtonii, 59388.
 stellerianum, 59389.
 subhirsutum, 59341.
 victoralis, 59351.
 Aloe spp., 60449, 60462.
 Alopecurus pratensis, 60748, 60749.
 Ampelodesma bicolor, 60319.
 Andromeda ovalifolia. See *Pieris ovalifolia*.
 Andropogon schoenanthus. See *Cymbopogon schoenanthus*.
 Androsace spinulifera, 59002.
 Anemone Japanese, *Anemone japonica*, 60188.
 Anemone japonica, 60188.
 Anogeissus sp., 59674.
 Anthistiria ciliata. See *Themeda quadrivalis*.
 Anthoxanthum odoratum, 60750.
 Antigonon guatimalense, 59643.
 Apple, *Malus* spp., 58975, 59324, 59422.
 Apricot, *Prunus armeniaca*, 58976.
 Aristolochia sp., 60390.
 Arrhenatherum erianthum, 59358.
 Asclepias stellifera, 60353.
 subulata, 59766.
 Assonia masterii, 59305.
 Aster sp., 59406.
 staticifolius, 59405.
 Astragalus sp., 59653.
 chinensis, 59352.
 physodes, 60335.
 vimineus, 60336.
 Atropa belladonna, 59692.
 Avena abyssinica, 60463.
 barbata wiestii, 59689.
 montana, 59363.
 planiculmis, 59364, 59693.
 sativa, 60751-60770.
 sterilis, 59285, 59383.
 versicolor, 59694.
 Aronopus scoparius, 58966.
 Banana, *Musa paradisiaca sapientum*, 59377.
 Baobab, *Adansonia digitata*, 59673.
 Barberry. See *Berberis* spp.
 Barley, *Hordeum intermedium haxtoni*, 60674.
 deficient, *H. deficiens*, 60549, 60550, 60692, 60694-60697.
 Barley, naked, *H. distichon nudum*, 60693.
 six-rowed, *H. vulgare coeleste*, 60204, 60205, 60530, 60539, 60690, 60691, 60700.
 H. vulgare duplinigrum, 60531, 60689.
 H. vulgare nigrum, 60526, 60527, 60532-60535, 60547.
 H. vulgare pallidum, 59772, 59773, 60525, 60528, 60529, 60536-60538, 60540-60546, 60548, 60551, 60660-60673, 60675-60684, 60686-60688.
 two-rowed, *H. distichon palmella*, 60701.
 Bauhinia spp., 60395, 60450.
 Bauno, *Mangifera verticillata*, 60308.
 Bean, broad, *Vicia faba*, 60626-60630.
 castor, *Ricinus communis*, 60938.
 common, *Phaseolus vulgaris*, 60575-60579.
 Lima, *P. lunatus*, 60402.
 mung, *P. aureus*, 59384, 60573, 60574.
 Yard Long, *Vigna sesquipedalis*, 60300.
 Beckmannia erucaceiformis, 60771, 60772.
 Benincasa hispida, 59390.
 Berberis aristata, 60378.
 dictyophylla, 59003.
 insignis, 60637.
 koehneana, 60362.
 napaulensis, 60638.
 sinensis, 60418.
 wallichiana, 60639.
 wilsonae, 60419.
 Betula sp., 59654.
 cylindrostachya, 60640.
 Binukao, *Garcinia binucuo*, 58958, 59376.
 Birch, *Betula* sp., 59654.
 Blackberry, *Rubus* spp., 58997-58999.
 R. fruticosus, 58968.
 Brachiaria obtusiflora, 60464.
 Brachypodium distachyum, 60363.
 japonicum, 59353.
 mexicanum, 59295.
 ramosum, 60364.
 Brassica spp., 60218, 60219.
 alba, 60773, 60774.
 juncea, 60775, 60776.
 oleracea capitata, 60777-60789.
 rapa, 60790-60793.
 Bromus sp., 60465.
 inermis, 60794, 60795.
 Bucklandia populnea, 60641.
 Buddleia forrestii, 59004.
 Cabbage, *Brassica oleracea capitata*, 60777-60789.
 Cajan indicum, 59306.
 Calamagrostis lanceolata, 59359.
 Callitris cupressoides, 60360.
 Campanula sp., 59005.
 Canavali rusiospermum, 59307.
 Cannabis sativa, 60796-60817.
 Capparis sp., 60370.
 Caragana sp., 59006.
 Carica papaya, 60355, 60451.
 papaya × *posoposa*, 59308-59310.
 posoposa, 59311.
 Carum copticum, 60466, 60467.
 Cassia didymobotrya, 59675.
 fistula, 59312.
 occidentalis, 60468.
 tora, 60469.
 Castanopsis argentea, 58931, 58961.
 tungurrit, 58932.
 Catjang, *Vigna cylindrica*, 59371, 60632.
 Cedar, East African, *Juniperus procera*, 60553.
 Cedrela odorata, 59302.
 Centaurea canariensis, 59655.
 Cerbera thevetia, 60396.
 Cereus validus, 58988.
 Chaetochloa italica, 59328, 60337-60339.
 Chenopodium quinoa, 59333, 59402.
 Cherry, *Prunus* spp., 59664, 59665.

- Chick-pea. See *Cicer arietinum*.
Cicer arietinum, 59280, 59281, 58375, 60371, 60470, 60471, 60818-60821.
Cinchona ledgeriana, 60292.
succirubra, 60293.
Citron. See *Citrus medica*.
Citrullus vulgaris, 60258, 60340, 60822-60828.
Citrus medica, 60452.
sinensis, 58989, 58990.
Clematis montana rubens, 60420.
Clover, *Trifolium* spp., 60593, 60594.
T. africanum glabellum, 58987.
fragiferum, 60351.
maritimum, 59370.
alsike, *Trifolium hybridum*, 60940, 60941.
bur, *Medicago hispida denticulata*, 60562.
fragrant, *Trifolium suaveolens*, 60953.
red, *Trifolium pratense*, 59290, 59291, 59299, 59300, 60942-60952.
T. pratense frigidum, 59699.
Colocasia spp., 59690, 60397.
esculenta, 59289.
Colvillea racemosa, 59676.
Corn. See *Zea mays*.
Coronilla glauca, 59360.
Corylopsis sp., 59007.
Corylus tibetica, 59008.
Cotoneaster sp., 59407.
frigida, 60425.
salicifolia floccosa, 60649.
Cotton. See *Gossypium* spp.
Cotula cinerea, 60255.
Cotyledon nodulosa. See *Echeveria nodulosa*.
Cowpea, *Vigna sinensis*, 60251, 60633.
Cracca candida, 60170, 60642.
Crape myrtle, *Lagerstroemia speciosa*, 59315.
Cremanthodium spp., 59009, 59409.
Crotalaria spp., 60304-60306, 60372, 60472.
capensis, 59319.
intermedia, 60301.
leioloba, 59320.
maxillaris, 60302.
semperflorens, 59365.
sphaerocarpa, 60303.
tetragona, 59321.
Croton megalocarpus, 60453.
elliottianus. See *C. megalocarpus*.
Cryptostegia grandiflora, 60441.
madagascariensis, 60442.
Cucumber. See *Cucumis sativus*.
Cucumis melo, 60285, 60289, 60320-60322, 60829-60835.
metuliferus, 60368.
sativus, 59765, 60256.
Cucurbita maxima, 60836-60841.
pepo, 60286, 60842, 60843.
Cupressus sp., 59656.
Cymbopogon spp., 60474-60476.
schoenanthus, 60473.
Cynodon plectostachys, 60477.
Dactylis glomerata, 60844, 60845.
Danthonia semiannularis, 59361.
Davidia involucrata, 58977.
Delphinium spp., 59010, 59011, 59410-59413, 59702-59704.
Desmodium spp. See *Meibomia* spp.
Deutzia sp., 59705.
Dillenia burbridgei, 60438.
philippinensis, 59274.
Dioscorea sp., 58973.
Diospyros sp., 59657.
kaki, 58971, 58972, 59342-59345.
Dipholis salicifolia. See *Spondogona salicifolia*.
Dombeya mastersii. See *Assonia mastersii*.
Echeveria nodulosa, 60309.
Eleusine coracana, 60478-60480.
Elichrysium sp., 60290.
Elymus europaeus, 59366.
Emmer, *Triticum dicoccum*, 60614-60616, 60704-60706.
Engelhardtia spicata, 60643.
Enkianthus sp., 59414.
Entelea palmata, 59658.
Eragrostis sp., 60486.
abyssinica, 60373, 60374, 60481-60485.
superba, 60454.
Erythrina bogotensis, 59374.
monosperma, 59769.
Esenbeckia leiocarpa, 60201.
Eugenia uniflora, 59313.
Euonymus fimbriatus, 60357.
Euptelea pleiosperma, 59415.
Fenugreek, *Trigonella foenum graecum*, 60595.
Fescue, meadow, *Festuca elatior*, 60846-60849.
red, *F. rubra*, 60851.
sheep's, *F. ovina*, 60850.
Festuca elatior, 60846-60849.
elatior apennina, 59695.
ovina, 60850.
rubra, 60851.
rubra picta, 59696.
Ficus sp., 60391.
carica, 59269-59273.
lactor, 59677.
Fig. See *Ficus carica*.
Firmiana colorata, 59678.
Flax, *Linum usitatissimum*, 60558-60561, 60862-60871.
New Zealand, *Phormium tenax*, 60231.
Foxtail, meadow, *Alopecurus pratensis*, 60748, 60749.
Fragaria spp., 59777-59829.
Funtumia elastica, 58963.
Garcinia binucao, 58958, 59376.
tinctoria, 59314.
xanthochymus. See *G. tinctoria*.
Gaultheria fragrantissima, 59659, 60644.
Gentiana spp., 59012-59020, 59416, 59417.
Gladiolus callistus, 60361.
Gleditsia sinensis, 60220.
Glycine hispida. See *Soja max*.
Gossypium spp., 60375-60377, 60399, 60487-60489.
herbaceum, 60852.
Gourd, wax, *Benincasa hispida*, 59390.
Grass, *Agrostis capillaris*, 60417.
Ampelodesma bicolor, 60319.
Arrhenantherum erianthum, 59358.
Avena montana, 59363.
planiculmis, 59364, 59693.
versicolor, 59694.
Brachiaria obtusiflora, 60464.
Brachypodium distachyum, 60363.
japonicum, 59353.
mexicanum, 59295.
ramosum, 60364.
Bromus sp., 60465.
inermis, 60794, 60795.
Calamagrostis lanceolata, 59359.
Cymbopogon spp., 60474-60476.
schoenanthus, 60473.
Cynodon plectostachys, 60477.
Danthonia semiannularis, 59361.
Eragrostis sp., 60486.
superba, 60454.
Festuca elatior apennina, 59695.
rubra picta, 59696.
Melica altissima, 59296.
Muhlenbergia mexicana, 59368.
Panicum sp., 60567.
bulbosum, 59354.
Pennisetum spp., 60382, 60571.
unisetum, 60569, 60570.
Phalaris nodosa, 60366.
Phragmites vulgaris, 60580.
Saccharum sp., 60587.
Spartina townsendi, 59886.
Sporobolus sp., 60456.
Stipa capillata, 60347.
pennata, 60348.
pennata lessingiana, 60349, 60350.
Themeda sp., 60383.
quadrivalvis, 59362.
Trichopteryx sp., 60591.
Trisetum carpaticum, 59700.
crab, *Syntherisma sanguinalis*, 59298.
blue, *Poa pratensis*, 60937.
brome, *Bromus inermis*, 60794, 60795.
fowl meadow, *Poa palustris*, 60936.
Italian rye, *Lolium multiflorum*, 60872.
lyme, *Elymus europaeus*, 59366.
Natal, *Tricholaena rosea*, 60457, 60590.
orchard, *Dactylis glomerata*, 60844, 60845.
perennial rye, *Lolium perenne*, 60873, 60874.
reed canary, *Phalaris arundinacea*, 60881.
slough, *Beckmannia erucaeformis*, 60771, 60772.
sweet vernal, *Anthoxanthum odoratum*, 60750.
timothy, *Phleum pratense*, 60882-60887.
wheat, *Agropyron cristatum*, 60744, 60745.
Guilielma speciosa, 60367.

- Halimodendron halodendron*, 60341.
Hazel, Corylus tibetica, 59008.
Hedysarum polymorphum, 60342.
Helianthus annuus, 59770, 59771, 60853.
Helleborus foetidus, 60358.
Helminthocarpum abyssinicum, 60490.
Hemp, Cannabis sativa, 60796-60817.
ambari, Hibiscus cannabinus, 60190-60200.
Heterophragma adenophyllum, 59679.
Hibiscus spp., 60400, 60491.
cannabinus, 60190-60200, 60314.
rosa-sinensis, 59644.
sabdariffa, 58959, 58960, 60315.
Holcus sorghum, 59282, 59329, 60379, 60492-60524.
Holoptelea integrifolia, 59680.
Hordeum deficiens, 60549, 60550, 60692, 60694, 60696.
deficiens steudelii, 60695, 60697.
distichon nudum, 60693.
distichon palmella, 60701.
intermedium haxtoni, 60674.
vulgare coeleste, 60204, 60205, 60530, 60539, 60690, 60691, 60700.
vulgare duplinigrum, 60531, 60689.
vulgare nigrum, 60526, 60527, 60532-60535, 60547, 60699.
vulgare pallidum, 59772, 59773, 60525, 60528, 60529, 60536-60538, 60540-60546, 60548, 60551, 60660-60673, 60675-60684, 60698.
Hydrangea heteromalla, 59660.
robusta, 60645.
Hyoscyamus falezlez, 60257.
Ilex insignis, 60646.
latifolia, 59391.
Incarvillea delavayi, 60189.
lutea, 59418.
Indigofera sp., 60380.
dosua tomentosa, 60647.
pendula, 59419.
Ipomoea batatas, 59858-59933, 60443-60447.
cairica, 60552.
palmata. See *I. cairica*.
Iris sp., 59021.
halophila, 60343.
Jatropha multifida, 60398.
Juniperus procera, 60553.
Kaki, Diospyros kaki, 58971, 58972, 59342-59345.
Khaya nyasica, 59293.
Kosteletzkya adoensis, 60554.
Lactuca sativa, 60221.
Lagerstroemia flos-reginae. See *L. speciosa*.
parviflora, 60648.
speciosa, 59315.
Landolphia senegalensis, 59775.
Latania loddigesii, 59316.
Lathyrus sativus, 60555, 60556, 60854.
Lens esculenta. See *Lentilla lens*.
Lentil. See *Lentilla lens*.
Lentilla lens, 60381, 60557, 60855-60861.
Lespedeza juncea sericea, 59378.
stipulacea, 59379.
Lettuce, Lactuca sativa, 60221.
Leucosceptrum canum, 59661, 60650.
Ligustrum confusum, 60651.
Lilium sp., 59420.
concolor, 59380, 59381.
martagon × *hansonii*, 60283.
philippinense, 58964.
sulphureum × *regale*, 60284.
Lily. See *Lilium* spp.
benguet, L. philippinense, 58964.
Limonium gmelini, 60344.
Linum usitatissimum, 60558-60561, 60862-60871.
Litchi chinensis, 59649.
Lolium multiflorum, 60872.
perenne, 60873, 60874.
Lopezia racemosa, 60310.
Lotus corniculatus, 60875.
Lucuma multiflora, 58974.
Lumbang, Aleurites moluccana, 59301.
Lychee, Litchi chinensis, 59649.
Lycopersicon esculentum, 59392, 60365.
Magnolia sp., 59421.
campbellii, 59372, 59373.
Malus spp., 58975, 59324, 59423.
yunnanensis, 59422.
Mango. See *Mangifera indica*.
Mangifera indica, 59645, 59646.
odorata, 60307.
verticillata, 60308.
Medicago falcata, 60876.
hispida denticulata, 60562.
marina, 59367.
sativa, 58969, 59774, 60563, 60877, 60878.
Meibomia spp., 59424, 60564.
japonica, 60448.
oldhami, 58962.
sequax, 60652.
Melica altissima, 59296.
Melon, Cucumis melo, 60285, 60289, 60320-60322, 60829-60835.
Melothria sp., 60401.
Millet, Chaetochloa italica, 59328, 60337-60339.
pearl, Pennisetum glaucum, 60568.
Mimusops elengi, 59681.
Morus kagayamae, 60324.
Muhlenbergia mexicana, 59368.
Musa paradisiaca, 59275.
paradisiaca sapientum, 59377.
textilis, 60421-60424.
Mustard, Brassica juncea, 60775, 60776.
white, Brassica alba, 60773, 60774.
Napoleona imperialis, 60439.
Nephelium mutabile, 60171.
Nicotiana suaveolens, 59365.
tabacum, 59334-59339.
Nigella sativa, 60565.
Oats, Avena abyssinica, 60463.
A. barbata wiestii, 59689.
A. sativa, 60751-60770.
A. sterilis, 59285, 59383.
Ocimum basilicum, 60566.
Onion, Allium cepa, 59330, 59650.
Welsh, A. fistulosum, 60226.
Onobrychis viciaefolia. See *O. vulgaris*.
vulgaris, 60879.
Orange, sweet, Citrus sinensis, 58989, 58990.
Ornithogalum thyrsoides, 60168, 60169.
Ornithopus sativus, 60880.
Oxytropis floribunda, 60345.
Pacouria capensis, 59331.
Paeonia lutea, 59425.
Palm, Latania loddigesii, 59316.
Socratea exorrhiza, 59279.
Panicum sp., 60567.
bulbosum, 59354.
Papaya, Carica papaya, 60355, 60451.
Paspalum scoparium. See *Axonopus scoparius*.
Passiflora sp., 60354.
alba, 59662.
suberosa, 60311, 60312.
vitifolia, 60356.
Pea. See *Pisum sativum*.
Pisum sativum umbellatum, 59396.
pigeon, Cajan indicum, 59306.
Pear. See *Pyrus* spp.
Pedicularis sp., 59706.
Pennisetum spp., 60382, 60571.
glaucum, 60568.
hordeiforme, 60572.
typhoideum. See *P. glaucum*.
unisetum, 60569, 60570.
Peucedanum decursivum, 60222.
Phalaris arundinacea, 60881.
nodosa, 60366.
Phaseolus aureus, 59384, 60573, 60574.
lunatus, 60402.
radiatus, 59385.
vulgaris, 60575-60579.
Philadelphus spp., 59426, 59707.
Phleum pratense, 60882-60887.
Phormium tenax, 60231.
Phragmites vulgaris, 60580.
Phyllocarpus septentrionalis, 59768.
Picea sp., 59393.
Pieris spp., 59022, 59708, 59709.
ovalifolia, 60653.
Pine. See *Pinus* spp.
Pinus montana pumilio, 59697.
sinensis yunnanensis, 59427.
Pisum sativum, 59283, 59369, 59394, 59395, 60581-60584, 60888-60935.
sativum umbellatum, 59396.
Pitanga, Eugenia uniflora, 59313.

- Pithecolobium bigeminum*, 59682.
Pittosporum macrophyllum, 59663.
 Plantain, *Musa paradisiaca*, 59275.
Plumeria rubra, 59647.
Poa palustris, 60936.
 pratensis, 60937.
Polygonum campanulatum, 60252.
 Pomegranate, *Punica granatum*, 59648.
 Potato, sweet, *Ipomoea batatas*, 59858-59933, 60443-60447.
Potentilla sp., 59023.
 Primrose. See *Primula* spp.
Primula spp., 59024, 59028, 59430.
 agleniana, 59432.
 calliantha, 59025, 59026.
 forrestii, 59710.
 ingens, 59027, 59433.
 littoniana, 59428.
 pinnatifida, 59711.
 poissoni, 59434.
 secundiflora, 59429.
 septemloba, 59712.
 valentiniana, 59431.
Prunus spp., 59664, 59665, 60287.
 armeniaca, 58976.
 cerasoides, 60654.
 puddum. See *P. cerasoides*.
 Pulasan, *Nephelium mutabile*, 60171.
 Pumpkin, *Cucurbita pepo*, 60286, 60842, 60843.
Punica granatum, 59648.
 Pupunha, *Guilielma speciosa*, 60367.
Putranjiva roxburghii, 59683.
Pyracantha angustifolia, 59408.
Pyrus spp., 59325-59327.
 yunnanensis. See *Malus yunnanensis*.
 Quinoa, *Chenopodium quinoa*, 59333, 59402.
 Ragi, *Eleusine coracana*, 60478-60480.
 Raspberry, *Rubus* spp., 58980-58985, 60173, 60174, 60291.
 Redtop, *Agrostis palustris*, 60746, 60747.
Rheum officinale, 60223.
Rhododendron spp., 59030-59057, 59059, 59060, 59064, 59069-59076, 59081, 59083, 59084, 59086, 59087, 59089, 59090, 59092-59099, 59101, 59102, 59104-59121, 59123-59128, 59130-59159, 59161-59181, 59184, 59187, 59189-59193, 59195-59233, 59236-59244, 59247-59257, 59259-59263, 59436-59446, 59448-59462, 59465, 59474-59477, 59479, 59481, 59483, 59485-59488, 59490-59494, 59496, 59498-59536, 59539-59556, 59558, 59560, 59562-59576, 59579-59600, 59602-59622, 59624-59637, 59666, 59719-59728, 59730-59751, 59753-59756, 59758, 59760-59762, 60206.
 amaurophyllum, 59194.
 araliiforme, 59435, 59598, 59599, 59601, 60207.
 arboreum, 60655.
 cephalanthum, 59029.
 chartophyllum, 59713.
 cosmetum, 59478.
 crassum, 59537, 59752.
 forrestii, 59122, 59489.
 fulvoides, 59088, 59091, 59100, 59235, 59447, 59495, 59497, 59538, 59559.
 glischrum, 59759.
 heliopsis, 59714, 59715.
 izeuticum, 59058, 59062, 59063, 59065-59068, 59077, 59129, 59160, 59183, 59185, 59186, 59188, 59463, 59464, 59466-59472.
 megacalyx, 59557.
 niphargum, 59245, 59246, 59623, 59757.
 praestans, 59085.
 racemosum, 59258, 59577, 59578, 59638, 59717, 59718.
 radicans, 59182.
 repens, 59061, 59078, 59080, 59473.
 saluenense, 59082, 59482, 59484.
 semnum, 59079, 59480, 59729.
 serpens, 59103.
 sino-grande, 59234.
 sinonuttallii, 59561.
Rhus vernicifera. See *R. verniciflua*.
 verniflua, 60224.
Ribes sp., 60172.
 bethmontii, 59393.
Ricinus communis, 60938.
Rosa spp., 59639, 60384, 60585.
 omeiensis, 59264.
Roscoe sp., 59763.
 Rose. See *Rosa* spp.
 Roselle, *Hibiscus sabbdariffa*, 60315.
 Rubber, palay, *Cryptostegia grandiflora*, 60441.
 C. madagascariensis, 60442.
 Rubber tree, Lagos, *Funtumia elastica*, 58963.
Rubus spp., 58980-58985, 58997-58999, 59830-59840, 60173, 60174, 60291, 60385, 60586.
 biflorus, 58967.
 biflorus quinqueflorus, 59399.
 crataegifolius morifolius, 59400.
 flagelliflorus, 59276.
 fruticosus, 58968.
 henryi, 59277.
 lineatus, 59667.
 polytrichus, 59278.
 turquinensis, 60242.
Ruscus hypoglossum, 60359.
Saccharum sp., 60587.
 officinatum, 58991-58996, 59688.
 Salt tree, *Halimodendron halodendron*, 60341.
Sambucus adnata, 59668.
Sapindus emarginata, 59684.
Sapium jenmanni, 60254.
Saussurea sp., 59764.
 gossipiphora, 59265.
Scabiosa sp., 59640.
Schizocentron elegans, 60313.
Serjania paniculata, 59303.
 Sesame. See *Sesamum orientale*.
Sesamum orientale, 60588, 60589, 60939.
Sesban sp., 59323.
 aculeatum, 58978.
 aegyptiacum, 58979.
 sericeum, 59322.
Setaria italica. See *Chaetochloa italica*.
Sideroxylon australe, 59332.
Socratea exorrhiza, 59279.
Soja max, 58934-58957, 59355, 59841-59857, 60175-60187, 60202, 60203, 60208-60217, 60232-60241, 60243-60250, 60259-60282, 60288, 60294-60299, 60316, 60317, 60325-60334, 60406-60416, 60428-60437.
Solanum sp., 60455.
Sophora alopecuroides, 60346.
 davidii, 59641.
 viciifolia. See *S. davidii*.
Sorbus sp., 59266.
Sorghum, *Holcus sorghum*, 59282, 59329, 60379, 60492-60524.
Sorghum vulgare. See *Holcus sorghum*.
 Soy bean. See *Soja max*.
Soymida febrifuga, 59685.
Spartina townsendii, 58986.
Spondogona salicifolia, 59356.
Sporobolus sp., 60456.
 Spruce, *Picea* sp., 59393.
 Squash, *Cucurbita maxima*, 60836-60841.
Statice gmelini. See *Limonium gmelini*.
Sterculia colorata. See *Firmiana colorata*.
Stipa capillata, 60347.
 pennata, 60348.
 pennata lessingiana, 60349, 60350.
 Strawberry, *Fragaria* spp., 59777-59829.
Strax hookeri, 60656.
 Sugar cane, *Saccharum officinarum*, 58991-58996, 59688.
 Sunflower, *Helianthus annuus*, 59770, 59771, 60853.
Sutherlandia frutescens, 59297.
Swertia sp., 59267.
Syntherisma sanguinalis, 59298.
Talinum triangulare, 59292.
 Teff, *Eragrostis abyssinica*, 60373, 60374, 60481-60485.
Telfairia pedata, 60403.
Tephrosia candida. See *Cracca candida*.
Terminalia bellerica, 59686.
 muelleri, 59687.
Themeda sp., 60383.
 quadrivalvis, 59362.
Thevetia nereifolia. See *Cerbera thevetia*.
Thladiantha dubia, 59397.
Thunbergia mysorensis, 60440.
 Timothy, *Phleum pratense*, 60882-60887.
Tinnea aethiopica, 59317.
 Tipu, *Tipuana tipu*, 59669.
Tipuana speciosa. See *T. tipu*.
 tipu, 59669.

- Tobacco, *Nicotiana tabacum*, 59334-59339.
 Tomato, *Lycopersicon esculentum*, 60365.
Trachylobium verrucosum, 60323.
Tricholaena rosea, 60457, 60590.
Trichopteryx sp., 60591.
Trichostigma octandra, 59304.
Trifolium spp., 60593, 60594.
 africanum glabellum, 58987.
 alexandrinum, 58970.
 fragiferum, 60351.
 hybridum, 60940, 60941.
 maritimum, 59370.
 pratense, 59290, 59291, 59299, 59300, 60942-60952.
 pratense frigidum, 59699.
 procumbens, 60592.
 suaveolens, 60953.
Trigonella foenum graecum, 60595.
Trisetum carpaticum, 59700.
Triticum spp., 60619, 60621-60625, 60740.
 aestivum, 59286, 59287, 59776, 60596-60613, 60702, 60703, 60725, 60728.
 dicoccum, 60614-60616, 60704-60706.
 durum, 59284, 60386, 60387, 60707-60712, 60716-60723, 60726, 60727, 60730-60739, 60741-60743.
 turgidum, 60318, 60617, 60618, 60620, 60713-60715, 60724, 60729.
 vulgare. See *T. aestivum*.
 Turnip, *Brassica rapa*, 60790-60793.
 Undetermined, 59642, 59670, 60393, 60394, 60404, 60405, 60459, 60460, 60636.
Urochloa brachyura, 59767.
Vaccinium sp., 59268.
 dunalianum, 60657.
 glauco-album, 59671.
 Vetch, *Vicia* spp.
 bitter, *Lathyrus sativus*, 60555, 60556, 60854
Viburnum hupehense, 59401.
Vicia sp., 60631.
 faba, 60626-60630.
 japonica, 59382.
 miclauzii, 59357.
 sativa, 60954-60956.
Vigna cylindrica, 59371, 60632.
 lutea, 60253.
 retusa. See *V. lutea*.
 sesquipedalis, 60300.
 sinensis, 60251, 60633.
Villamilla octandra. See *Trichostigma octandra*.
Vitex cienkowski, 60426.
 eylesii, 60427.
Voandzeia subterranea, 60392.
 Watermelon, *Citrullus vulgaris*, 60258, 60340, 60822-60828.
 Wheat. See *Triticum* spp.
 common. See *T. aestivum*.
 durum. See *T. durum*.
 poulard. See *T. turgidum*.
 Yam, *Dioscorea* sp., 58973.
Zanthoxylum acanthopodium, 60658.
 ozyphyllum, 60659.
Zea mays, 59288, 59934-60167, 60352, 60634, 60635.
Ziziphus mauritiana, 60458.

 ADDITIONAL COPIES

OF THIS PUBLICATION MAY BE PROCURED FROM
 THE SUPERINTENDENT OF DOCUMENTS
 GOVERNMENT PRINTING OFFICE
 WASHINGTON, D. C.

AT
 10 CENTS PER COPY



UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 80



Washington, D. C.

Issued April, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JULY 1 TO SEPTEMBER 30, 1924 (S. P. I. NOS. 60957 TO 61737)

CONTENTS

	Page
Introductory statement	1
Inventory	3
Index of common and scientific names	31

INTRODUCTORY STATEMENT

The outstanding feature of the introductions included in this inventory is the relatively large proportion of forage plants, cereals, and vegetables contributed almost entirely by representatives of the bureau traveling abroad or by foreign agricultural institutions with which the Office of Foreign Plant Introduction has contacts.

H. L. Westover, of the Office of Forage Crops, made a trip to Argentina and Chile with the particular object of studying the culture of alfalfa. Extensive collections of plant material were made in those countries by Mr. Westover, not only of local strains of alfalfa but also of cereals, native grasses, and leguminous forage plants.

H. L. Shantz, of the Office of Plant Geography and Physiology, whose trip to Africa for the African Educational Commission was mentioned in the preceding inventory, continued his travels in that continent during this period, and sent in several more shipments of plant material which included native forage plants, sorghums, and other cereals and a considerable number of shrubby and herbaceous ornamentals.

While carrying on agricultural explorations in Yunnan, southwestern China, for the National Geographic Society, J. F. Rock, a collaborator of this office, made a special collection of native strains of beans and peas (Nos. 61018 to 61038). This collection should prove of special interest to vegetable breeders. A similarly interesting collection of local varieties of beans was received from George H. Winn, of Taiku, Chosen (Nos. 61039 to 61054).

Further shipments of local strains of crop plants were received from Dr. N. I. Vavilov, Director of the Bureau of Applied Botany and Plant Breeding, Leningrad, Russia. These included a series of wheats (*Triticum* spp., Nos. 61101 to 61198), a series of barleys (*Hordeum* spp., Nos. 61506 to 61592), and a small series of cottons (*Gossypium* spp., Nos. 61696 to 61714). Many of these strains originated in parts of Russia where climatic conditions are not favorable for growing crops, so that this material should prove unusually valuable for extending the range in this country of the crops represented. These same observations might also apply to additional shipments of plant material received from Prof. K. Murashinsky, of the Siberian Agricultural Academy, Omsk, Siberia. Grasses and forage plants constitute the greater part of Professor Murashinsky's contributions. For the benefit of forage-crop specialists of the

bureau who are carrying on experiments with small-seeded strains of chick-peas as a stock feed in the Southwest, material was introduced from a number of agricultural institutions in India (*Cicer arietinum*, Nos. 61066 to 61073; 61074 to 61081; 61082 and 61083; 61356 to 61365).

Seeds of a number of rubber-producing plants, introduced for bureau specialists seeking new sources of rubber, were received in a shipment from Alleyne Leechman, director of the Biological and Agricultural Institute at Amani, Tanganyika Territory, Africa. Among these may be mentioned *Castilla elastica* (No. 61483), *Funtumia elastica* (No. 61491), *Landolphia kirkii* and *L. stolzii* (Nos. 61492 and 61493), *Manihot glaziovii* (Nos. 61496 and 61497), and *Mascarenhasia elastica* (No. 61498).

Of especial interest to fruit breeders should be a prune (*Prunus domestica*, No. 60973), very similar to the French prune in character of fruit, which thrives in the latitude of Washington, D. C. Such a tree is growing in the garden of Dr. Aleš Hrdlička in Washington, and bears large crops each fall. The tree came originally from Czechoslovakia.

A new hybrid peach (*Amygdalus persica* × *persica nectarina*, No. 61302) originated at the Plant Introduction Garden, Chico, Calif., by hybridizing with foreign material gives promise of being a good home fruit. The round, light greenish yellow clingstone fruits, 2 inches in diameter, have white, firm, juicy flesh of a pleasing peachy flavor.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND McKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., August 19, 1926.

INVENTORY¹

60957. PRUNUS CANESCENS Bois. Amygdalaceæ.

From Loiret, France. Seeds presented by L. Pardé, Directeur des Écoles des Barres, Nogent sur Vernisson. Received September 8, 1924.

A shrubby cherry from Szechwan, China, with attractive, dark orange-brown bark and very hairy leaves and stems. In habit it is rounded and bushy and about 7 feet high. The clustered rosy white flowers are exceedingly fragrant, but fall quickly from the leafless branches. The smooth, red fruits, half an inch in diameter, have a pleasant, acid flavor.

60958. HIBISCUS CANNABINUS L. Malvaceæ. Ambari hemp.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, Division of Botany. Received September 8, 1924.

Introduced for testing by fiber specialists.

A prickly-stemmed plant 6 to 8 feet in height, cultivated throughout India and elsewhere in the warmer parts of the world for its fiber, which is used as a substitute for hemp. The fiber is soft, white, and silky and is considered by some authorities to be more durable than jute for coarse textiles.

For previous introduction see S. P. I. No. 55481.

60959. ANDROPOGON SACCHAROIDES Swartz. Poaceæ. Silver beard grass.

From Sucre, Buenos Aires, Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

April 5, 1924. This grass is very abundant west of Buenos Aires; it apparently is not relished by stock except when young. (Westover.)

60960 to 60971.

From Peking, China. Seeds purchased from Rufus H. Lefever, Presbyterian Mission. Received September 12, 1924. Notes by Mr. Lefever.

60960. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Fabaceæ. Adzuki bean.

No. 1. Nay shou do tzu (small black beans). These are boiled soft and sugar added to make a sweet cake.

60961. PHASEOLUS AUREUS Roxb. Fabaceæ. Mung bean.

No. 12. Starch is obtained from this for stiffening clothes and for eating like vermicelli.

60962 and 60963. PISUM SATIVUM L. Fabaceæ. Pea.

60962. No. 7. A local variety.

60963. No. 9. A local variety.

60964 to 60970. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ. Soy bean.

Local soy-bean varieties.

60964. No. 2.

60965. No. 3. Nay do. Fed to animals.

60966. No. 4.

60967. No. 5. Li lang do.

60968. No. 6. Sprouted and stewed with meat.

60969. No. 8. Used as flavoring for food.

60970. No. 10. Huang do (yellow bean). Used as flavoring for food.

60971. VIGNA SINENSIS (Tornier) Savi. Fabaceæ. Cowpea.

No. 11. Stewed and eaten with rice or millet.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction; further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

**60972. ATTALEA COHUNE Mart. Phœni-
caceæ. Cohune.**

From La Providencia, Chiapas, Mexico. Seeds presented by Dr. C. A. Purpus. Received September 15, 1924.

The cohune is a magnificent feather-leaved palm, native to the West Indies and Central America, which reaches a height of 40 feet, with leaves about 20 feet long, produced abundantly at the top of the trunk. The yellowish flowers are borne very freely, and the ovoid fruit, 2 to 3 inches long, contains the seed or nut, which yields an oil of considerable value. According to a statement published in Commerce Reports, May 9, 1919, this oil is of high quality, finds a ready sale for cooking purposes, and is suitable for any use to which a good cooking oil may be applied.

For previous introduction see S. P. I. No. 54017.

**60973. PRUNUS DOMESTICA L. Amyg-
dalaceæ. Prune.**

From Czechoslovakia. Budsticks presented by Dr. Aleš Hrdlička, United States National Museum, Washington, D. C. Received September 15, 1924.

Some years ago Doctor Hrdlička received from Czechoslovakia a shipment of trees and shrubs. These were planted on Tilden Street, Washington, D. C. One of the trees, a prune, has shown such value that Doctor Hrdlička has called it to our attention with the recommendation that it be propagated and given wide distribution in this part of the United States.

This prune, from specimens which we have examined recently, appears very similar to the French prune in character of fruit. The latter does not succeed in the climate of Washington, whereas Doctor Hrdlička's tree bears heavy crops annually, and the fruit seems almost immune to the attacks of curculio and other pests. The ripening season is September and October.

**60974. EUGENIA CURRANII C. B. Robin-
son. Myrtaceæ. Lipoti.**

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, Director, Bureau of Agriculture. Received September 16, 1924.

The lipoti is a handsome Philippine tree which is described in the Philippine Agricultural Review, volume 8, as a vigorous tree about 30 feet high, with a gnarled trunk and tortuous branches, and dark-green, shining leaves. The fruits are in clusters of 20 to 50 on the bare boughs or between the leaves on the larger twigs; the individual fruit is about the size of a grape, with thin, smooth, dark-red skin, and white, dry, crisp flesh with a flavor like that of the crab apple. The seed is comparatively large. The fruit is probably best suited for making preserves and jelly.

For previous introduction see S. P. I. No. 51201.

**60975 to 60982. DOLICHOS LABLAB L.
Fabaceæ. Hyacinth bean.**

From Salisbury, Rhodesia. Seeds presented by H. G. Mundy, Chief Agriculturist, Department of Agriculture, through C. V. Piper, Bureau of Plant Industry. Received September 16, 1924. Notes by Mr. Mundy.

All of these varieties are of the bush type except Maclean's [S. P. I. No. 60978] and McGillivray's [S. P. I. No. 60977].

60975. Gonzudzu. A native variety with rather small, white seeds.

60976. Lablab Stringless. A variety having medium-sized white seeds.

60977. McGillivray's. The khaki-brown seeds are medium sized.

60978. Maclean's. A variety with large, yellowish white seeds.

60979. A variety with purple vines and leaves and dark-purple seeds.

60980. Thurgarton. A variety with large, brown seeds.

60981. An imported, white-seeded variety similar to *Gonzudzu* [S. P. I. No. 60975].

60982. Woodforde's. A variety with small, brown seeds.

**60983. PRUNUS GLANDULOSA Thunb.
Amygdalaceæ.**

From Rochester, N. Y. Budwood presented by William L. G. Edson, in charge of the herbarium, Department of Parks. Received September 19, 1924.

This was grown from seeds originally brought from Manchuria by C. S. Sargent. The shrub, 15 to 20 years old, is about 5 feet high, and the fruit is the size of a large sweet cherry. (George M. Darrow, Bureau of Plant Industry.)

This pink-flowered Chinese shrub, often grown as an ornamental, bears abundant fruits, with a fresh acid flavor, which make excellent preserves.

For previous introduction see S. P. I. No. 54028.

**60984. ATTALEA COHUNE Mart. Phœni-
caceæ. Cohune.**

From Summit, Canal Zone. Seeds presented by Holger Johansen, Agronomist, Plant Introduction Garden. Received September 19, 1924.

For previous introduction and description see S. P. I. No. 60972.

**60985 to 60987. COLOCASIA spp. Ara-
ceæ. Taro.**

From Titikaveka, Rarotonga, Cook Islands. Tubers presented by Capt. J. D. Campbell. Received September 17, 1924.

Three varieties of taro introduced for cultural tests and comparison with taros now grown in the Gulf States.

60985. Taro kerekere.

60986. Taro simoa.

60987. Mixed varieties.

60988. SALACIA sp. Hippocrateaceæ.

From Akkra, Gold Coast Colony, Africa. Seeds presented by W. S. D. Tudhope, Director, Agricultural Department. Received September 23, 1924.

The roots and stems of this shrub, known to the natives of the Gold Coast Colony as "tetso," are said to contain a rubberlike substance, according to the Bulletin of the Imperial Institute, London, for 1912. The plant has been introduced for testing by rubber specialists.

60989. ZEA MAYS L. Poaceæ. Corn.

From Guasave, Sinaloa, Mexico. Seeds presented by F. W. Smith. Received September 15, 1924.

A variety of red sweet corn, introduced for testing by corn specialists.

60990 to 60999. TRITICUM spp. Poaceæ. Wheat.

From Maison-Carree, Algeria. Seeds presented by the governor general, Institute of Agriculture. Received May 21, 1924.

60990 to 60998. TRITICUM AESTIVUM L. (T. vulgare Vill.). Common wheat.

60990. No. 14. *Yahia*.

60991. No. 221. *Jidi Mansour*.

60992. No. 24. *Bahmond*.

60993. No. 36. *Mastaf*.

60994. No. 53. *Cafertast*.

60995. No. 59. *Hamra de Deldoul*.

60996. No. 62. *Chatar*.

60997. No. 69. *Heha*.

60998. No. 73. *Hamra barbu*.

60999. TRITICUM TURGIDUM L. Poulard wheat.

No. 57. *Ouin Rakba*.

61000. ULMUS PUMILA L. Ulmaceæ. Chinese elm.

From Nanking, China. Seeds purchased from Dr. J. H. Reisner, College of Agriculture, University of Nanking. Received July 11, 1924.

The Chinese elm, originally introduced some years ago, is proving a valuable acquisition to the semiarid regions of this country because of its resistance to alkali, drought, and extremes of temperature. As a windbreak and ornamental shade tree it has become popular in regions where other shade trees do not thrive.

61001. COTONEASTER SALICIFOLIA RUGOSA (E. Pritz.) Rehd. and Wils. Malaceæ.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, Director, Royal Botanic Gardens. Received November 10, 1923. Numbered July, 1924.

A very handsome Chinese shrub with long pendulous branches and wrinkled, narrow leaves with the lower surfaces covered with down. The small, scarlet berries contrast very effectively with the autumnal tints of the foliage.

61002 and 61003.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

61002. ANNESLIA sp. (Calliandra sp.). Mimosaceæ.

March 31, 1924. Found on dry gravelly mesas near Paso de los Andes, Mendoza. (Westover.)

61003. BOUTELOUA MEGAPOTAMICA (Spreng.) Kuntze. Poaceæ. Grass.

Sucre, Buenos Aires. April 5, 1924. Rare in this region. (Westover.)

61004 and 61005.

From Chile. Collected by H. L. Westover, Bureau of Plant Industry. Received July 2, 1924.

61004. MALUS SYLVESTRIS Mill. (Pyrus malus L.). Malaceæ. Apple.

Santiago. June 11, 1924. Scions of a variety supplied by Señor Comacho, at the Quinta Normal; said to be very resistant to the woolly aphis. The moderately large fruit is yellow and of fair quality. (Westover.)

61005. PASPALUM sp. Poaceæ. Grass.

June 11, 1924. Seeds collected near Alto del Carmen, Huasco Valley. (Westover.)

61006 to 61008. PHASEOLUS spp. Fabaceæ.

From Tucuman, Argentina. Seeds presented by Dr. W. E. Cross, experiment station, Tucuman, through C. V. Piper, Bureau of Plant Industry. Received July 9, 1924.

Introduced for testing by forage-crop specialists.

61006. PHASEOLUS CARACALLA L. Bertoni bean.

No. 169. May 11, 1924. Collected at Yerba Buena. (Cross.)

For previous introduction see S. P. I. No. 41882.

61007 and 61008. PHASEOLUS SEMIERECTUS L.

Introduced for trial as a forage and as a cover crop.

61007. No. 1765. 61008. No. 1784.

61009. POLYGALA BUTYRACEA Heckel. Polygalaceæ.

From Paris, France. Seeds presented by M. Aug. Chevalier, Museum of Natural History. Received July 3, 1924.

Some of the more primitive tribes of West Africa have cultivated this species, probably since ancient times, for food. It is an annual plant about 7 feet high, with hairy leaves, large yellowish flowers, and black, cylindrical seeds nearly a quarter of an inch long. It is for the sake of these seeds, which are oleaginous and very nutritious, that the plant is grown. Although the yield is not great, this is compensated for by the high food value of the seeds. The cultivation of the plant simply for the oil contained in these seeds would not, however, be profitable. (Chevalier.)

61010. FICUS sp. Moraceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received July 2, 1924.

Tibig, as this undetermined species of *Ficus* is known here, is the best fruit I have tasted in this genus next to the cultivated fig. It does not, of course, compare with the fig, but is worth trying where figs can not be grown for climatic reasons, and also for crossing with the fig to obtain varieties for tropical climates too trying for the fig.

The tree is upright and of medium size. The fruits are produced in short racemes on the trunk from the ground up and on the stout branches, and are about 1½ inches in diameter, fleshy and juicy, very

sweet for a wild fruit, with the characteristic flavor of the cultivated fig.

Though the tibig has fruited in Manila, the tree does best in a fairly moist climate with the rainfall equally distributed throughout the year. It is probably very tender. (Wester.)

61011 to 61014. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceae. Soy bean.

From Changli, Chihli, China. Seeds presented by C. F. Chou, Methodist Episcopal Mission. Received July 8, 1924.

These are planted in April, ripening in August. They grow best on black or yellow clay soil, with good drainage. (Chou.)

Introduced for testing by agronomists engaged in soy-bean experiments.

61011. *Ch'ing Pi Gat* (green bean).

61012. *Er* (yellow bean).

61013. *Kwan Tung* (small bean).

61014. *Ta Bi Mei*.

61015 to 61017. LANDOLPHIA spp. Apocynaceae.

From Zomba, Nyasaland Protectorate, Africa. Seeds presented by E. J. Wortley, Director of Agriculture. Received July 2, 1924.

Several species of *Landolphia* contain more or less rubber in the latex, and these listed below are introduced for testing by rubber specialists.

61015. *LANDOLPHIA PARVIFOLIA* Schum.

This is described by Otto Stapf (Thiselton-Dyer, *Flora of Tropical Africa*) as a much-branched, climbing shrub, with small, oblong leaves and small, pale-yellow or white flowers in small, dense clusters. The greenish purple fruits, about 2 inches in diameter, have a smooth, thick rind.

61016. *LANDOLPHIA* sp.

61017. *LANDOLPHIA* sp.

61018 to 61038.

From Honolulu, Hawaii. Seeds sent in by Dr. H. L. Lyon, in charge, department of botany and forestry, experiment station of the Sugar-Planters' Association. Received July 3, 1924. Notes by J. F. Rock.

A collection of bean varieties collected in Yunnan by J. F. Rock, National Geographic Society, Washington, D. C. These may prove of value for bean specialists for breeding and cultural experiments.

61018 to 61020. *DOLICHOS LABLAB* L. Fabaceae. Hyacinth bean.

61018. No. 3. Tsuchu district. *Hwei Pen* bean.

61019. No. 1. Yuanmao district. *Hung Pin* bean (red thin bean).

61020. No. 2. Monhua district. *Pai Pin* bean (white thin bean).

61021 to 61033. *PHASEOLUS* spp. Fabaceae.

61021 to 61023. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. *Adsuki* bean.

61021. No. 6. Chaofung district. *Lui* bean (common bean).

61018 to 61038—Continued.

61022. No. 8. Chinying district. *Hung Fan* bean (red rice bean).

61023. No. 17. Chaofung district. *Pai Fan* bean (white rice bean).

61024. *PHASEOLUS AUREUS* Roxb. Mung bean.

No. 7. Penchuan district. *Si Lue* bean (light-green bean).

61025 and 61026. *PHASEOLUS COCCINEUS* L. Scarlet Runner bean.

61025. No. 14-A. Chengkuan district.

61026. No. 9. Kuanming district. *Hung Hau Tsai* bean.

61027. *PHASEOLUS LUNATUS* L. Lima bean.

No. 13. Erhyuan district. *Hung Pao* bean (red-package bean).

61028 to 61033. *PHASEOLUS VULGARIS* L. Common bean.

61028. No. 18. Chinying district. *Hua* bean (flower bean).

61029. No. 15. Chaofung district. *Sui Chi* bean (four-season bean).

61030. No. 14-B. Chengkuan district.

61031. No. 10. Hingping district. *Ta Pai* bean (large white bean).

61032. No. 20. Fengyi district. Small white bean.

61033. No. 16. Taoon district. *Wu Chin* bean.

61034. *PISUM SATIVUM* L. Fabaceae. Pea. No. 12. Fengyi district. *Wan* bean.

61035 to 61037. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

61035. No. 5. Hsinping district. *Ta Lu* bean (large green bean).

61036. No. 4. Fumin district. *Sung Tzu* bean (pine seed bean).

61037. No. 19. Chiacha district. *Hwang* bean (yellow bean).

61038. *VICIA FABA* L. Fabaceae. Broad bean.

No. 11. Fumin district. *Tan* bean (egg bean).

61039 to 61056.

From Taiku, Chosen, Japan. Seeds presented by George H. Winn. Received July 2, 1924.

Introduced for specialists engaged in experimenting with various types of beans.

61039 to 61044. *PHASEOLUS* spp. Fabaceae.

61039 to 61041. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. *Adsuki* bean.

61039. No. 1. Ordinary red "pat."

61040. No. 2. White "pat."

61041. No. 7. Fifty-day gray "pat."

61042. *PHASEOLUS AUREUS* Roxb. Mung bean.

No. 4. Very small green "pat."

61039 to 61056—Continued.

61043. *PHASEOLUS CALCARATUS* Roxb.
Rice bean.

No. 5. Very small red "pat."

61044. *PHASEOLUS VULGARIS* L.
Common bean.

No. 7. Red soy.

61045 to 61054. *SOJA MAX* (L.) Piper
(*Glycine hispida* Maxim.). Fabaceæ.
Soy bean.

61045. No. 10. Black.

61046. No. 11. Brown.

61047. No. 8. Green.

61048. No. 3. Larger green.

61049. No. 2. Ordinary white.

61050. No. 9. Small black.

61051. No. 4. Small gray.

61052. No. 5. Striped brown.

61053. No. 6. Very small white.

61054. No. 1. White (largest variety).

61055. *VIGNA CYLINDRICA* (Stickm.)
Skeels. Fabaceæ. Catjang.

No. 3. Small black "pat."

61056. *VIGNA SINENSIS* (Torner) Savi.
Fabaceæ. Cowpea.

No. 6. Mottled red "pat."

61057 to 61060.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received July 1, 1924.

61057. *ELAEOCARPUS CYANEUS* Ait. Elæocarpaceæ.

As an ornamental tree for tropical and subtropical regions this Australian species shows considerable promise. In its native habitat it sometimes grows 60 feet high, with narrow, acuminate, prominently veined leaves, and cream-colored, fringed flowers in loose clusters a little shorter than the leaves. The fruits are globular, blue drupes.

For previous introduction see S. P. I. No. 45789.

61058. *HYMENOSPORUM FLAVUM* (Hook.)
F. Muell. Pittosporaceæ.

An ornamental evergreen shrub or tree, sometimes becoming 50 feet high, from Australia. The leaves are up to 9 inches long, and the fragrant flowers, yellow marked with red at the throat, are over an inch across. Its symmetrical pyramidal habit and rapid growth make it promising as a street tree for the Gulf States and California.

61059. *INDIGOFERA AUSTRALIS* Willd. Fabaceæ. Indigo.

An interesting shrubby indigo, native to Australia, and probably suitable for growing as an ornamental in the warmer parts of the United States. It is an erect, branching plant 2 to 4 feet high, with very attractive foliage and dense or loose clusters of showy red flowers.

For previous introduction see S. P. I. No. 56575.

61057 to 61060—Continued.

61060. *LEPTOSPERMUM SCOPARIUM* Forst.
Myrtaceæ. Manuka.

This evergreen shrub is one of the most abundant in New Zealand; it is of compact, bushy habit, sometimes becoming 30 feet high. The leaves are hard, leathery, and sharp pointed, and the white or pink flowers, borne in great profusion, are about three-fourths of an inch across. When this shrub is in bloom the entire region appears as if covered with snow. The leaves are very aromatic, for which reason they have sometimes been used for making tea.

For previous introduction see S. P. I. No. 44849.

61061 and 61062. *TRIFOLIUM PRATENSE*
L. Fabaceæ. Red clover.

From Copenhagen, Denmark. Seeds collected by G. C. Edler, United States Department of Agriculture. Received July 8, 1924.

Local red-clover strains introduced for testing by agronomists.

61061. G. C. E. No. 12.

61062. G. C. E. No. 13.

61063. *CASTANOPSIS* sp. Fagaceæ.
Chestnut.

From Palembang, Sumatra. Seeds presented by the Government Botanic Garden. Received July 15, 1924.

Tree No. 148-E. Collected April 20, 1924, at Palembang, Sumatra.

This species is of the 2-seeded to 3-seeded type and thus presumably one with edible nuts, since the other three species which I know from this region with more than one seed in a bur are edible. The nuts resemble somewhat those of *Castanopsis sumatrana*, but are of some other species, and very different from any the department is now growing. (Carl Hartley, Bureau of Plant Industry.)

61064. *PARKIA TIMORIANA* (DC.) Merr.
(*P. roxburghii* G. Don). Mimosaceæ.
Cupang.

From Manila, Philippine Islands. Seeds presented by Don D. Strong, Acting Director, Bureau of Agriculture, at the request of P. J. Wester. Received July 11, 1924.

A huge and remarkably handsome, quick-growing tree, attaining a height of 120 feet or more, with a clear, smooth trunk, and beautiful, fine-feathery, pinnate leaves. Native to Malaya, Burma, etc. It has been introduced into and become well established in Ceylon, thriving in the moist low country up to 2,000 feet. The long pods, which grow in clusters, contain a quantity of white, powdery, farinaceous substance. The tree is easily propagated by seed.

61065. *RUBUS MACROCARPUS* Benth.
Rosaceæ. Colombian blackberry.

From Bogota, Colombia. Seeds presented by F. L. Rockwood. Received July 17, 1924.

To be grown for plant breeders experimenting with small fruits.

These came from the best-looking fruits I have ever seen in the Bogota market. The original source was a barranca near Facatativa, in a place sheltered from the wind. They were from $1\frac{1}{8}$ to $1\frac{1}{2}$ inches long, rather triangular, and of fine appearance. (Rockwood.)

61066 to 61073. CICER ARIETINUM L.
Fabaceæ. Chick-pea.

From Pusa, Bihar, India. Seeds purchased from Asjan Singh, imperial agriculturist, Agricultural Research Institute. Received July 7, 1924.

Small-seeded strains introduced for trial as stock feed in the southwestern United States.

61066. *Gram Pusa 6.*

61067. *Gram Pusa 11.*

61068. *Gram Pusa 23.*

61069. *Pusa Farm selection 3.*

61070. *Pusa Farm selection 11.*

61071. *Pusa Farm selection 15.*

61072. *Pusa Farm selection 16.*

61073. *Pusa Farm selection 17.*

61074 to 61081. CICER ARIETINUM L.
Fabaceæ. Chick-pea.

From the Central Provinces of Nagpur, India. Seeds presented by J. F. Dastur, Department of Agriculture. Received July 18, 1924.

Introduced for forage-crop specialists experimenting with small-seeded strains of chick-peas.

61074. *Black gram 11-B.*

61075. *D-8.*

61076. *Dark brown gram (farm).*

61077. *Malida gram.*

61078. *Parbatiya gram.*

61079. *Parbatiya No. 2 (11-B).*

61080. *Yellow gram.*

61081. *Yellow No. 39 (11-B).*

61082 and 61083. CICER ARIETINUM L.
Fabaceæ. Chick-pea.

From Burma, India. Seeds presented by L. Lord, Deputy Director of Agriculture, Northern Circle, Mandalay. Received July 9, 1924.

Introduced for trial as stock feed in the southwestern United States.

61082. *Burmese.* 61083. *Karachi.*

61084. PERSEA AMERICANA Mill. (*P. gratissima* Gaertn. f.). Lauraceæ. Avocado.

From Honolulu, Hawaii. Budwood presented by Gerrit P. Wilder. Received July 24, 1924.

Wilder. The seed of the original tree of the Wilder was obtained by Gerrit P. Wilder from F. W. McFarlane, who lived on the Wiedemann place, now known as the Macdonald Hotel. Mr. Wilder planted the small seedling tree in his private garden at 1930 Ualakaa Street, Makiki, Honolulu, in 1900. Although the tree grew vigorously for eight years and bore fruit abundantly, it gradually began to show signs of unsatisfactory soil conditions, and new trees

were propagated from it by inarching on seedling rootstocks. The variety was maintained through inarching the progeny, from which there has been developed a large number of individuals. When grown in proper environment the Wilder is a vigorous tree of rather upright growth and produces an abundance of fruit of excellent quality. The variety is easily propagated by budding. The fruit ripens during October, November, December, and January.

Fruit: Form, almost spherical or slightly elongated; color, olive green; rind, surface slightly undulated, so thick as to be shell-like; weight, $1\frac{1}{4}$ pounds; flesh, yellow, tinged to green next to the rind, nutty in flavor, and free from fiber; seed, larger than the ideal, tight in the cavity, covered with skin, but a perfect freestone. Keeping qualities of the fruit are very good. (*The Guatemalan Avocado in Hawaii, Hawaii Bull. 51, p. 20.*)

61085 and 61086.

From Nigeria, Africa. Seeds presented by the senior conservator of forests, Oloke-meji, Southern Provinces. Received July 14, 1925.

61085. CARPODINUS HIRSUTA Hua. Apocynaceæ.

A common vine in the dry zone of West Africa; according to Holland (Useful Plants of Nigeria) it yields a rubber of inferior quality, known as "flake rubber" or "paste rubber," and the latex is commonly used to adulterate that of *Funtumia elastica*. It is one of the so-called "root-rubbers." Introduced for department rubber specialists.

61086. FUNTUMIA ELASTICA (Preuss) Stapf. Apocynaceæ.

Lagos rubber tree.

A large forest tree which is very widely distributed throughout central Africa and is the source of Lagos rubber, which is of excellent quality. It is being introduced with a view to including it in the collection of rubber plants now being brought together in southern Florida for investigational purposes.

For previous introduction see S. P. I. No. 58963.

61087. SACCHARUM OFFICINARUM L. Poaceæ. Sugar cane.

From Honolulu, Hawaii. Cuttings presented by Atherton Lee, experiment station of the Hawaiian Sugar-Planters' Association. Received July 10, 1924.

Cuttings of *Striped Tip* sugar cane, introduced for pathologists investigating sugar-cane diseases.

61088 to 61099.

From Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received July 3, 1924. Notes by Doctor Shantz.

61088 and 61089. *Voi Taviti.* March 31, 1924. Collected from rather dry grassland.

61088. *CHLORIS* sp. Poaceæ. Grass. No. 186.

61089. *CYNODON PLECTOSTACHYS* (Schum.) Pilg. Poaceæ. Grass.

No. 186b. A low, perennial grass with creeping stolons and short blades and upright flowering stems.

1088 to 61099—Continued.

61090. DIOSCOREA LATIFOLIA Benth.
Dioscoreaceæ. Acom.

No. 190. Moshi. April 2, 1924. An important element in the natives' diet; grown alone on poles or allowed to cover banana plants.

61091. ERAGROSTIS sp. Poaceæ. Grass.

No. 196. M'Kambara, Tanganyika Territory. April 3, 1924. A small grass grown as a semiruderal along the track.

61092. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceæ. Grass sorghum.

No. 186a. Karogive, Tanganyika Territory, April 3, 1924. A wild sorghum.

61093. LATIPES SENEGALENSIS Kunth.
Poaceæ. Grass.

No. 186c. Voi Taviti. March 31, 1924. Collected from dry grasslands.

61094 to 61097. PHASEOLUS VULGARIS L.
Fabaceæ. Common bean.

Moshi. April 2, 1924.

61094. No. 192. Type grown at Moshame, slopes of Mount Kilimanjaro.

61095. No. 193. Recently introduced at Moshame.

61096. No. 194. Red beans; introduced at Moshame.

61097. No. 195. White beans; introduced at Moshame.

61098. SECALE CEREALE L. Poaceæ. Rye.

No. 189. Moshi. April 2, 1924. Grown on slopes of Mount Kilimanjaro, at Moshame; altitude about 5,000 feet.

61099. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

No. 188. Moshi. April 2, 1924. Grown at Moshame, but not extensively. Does fairly well.

61100. STIZOLOBIUM sp. Fabaceæ.
Velvet bean.

From Wembley, England. Seeds secured by C. V. Piper, Bureau of Plant Industry. Received July 26, 1924.

Seeds gray, marbled with black; secured from the Nyasaland exhibit, June, 1924. (Piper.)

61101 to 61198. TRITICUM spp. Poaceæ.

From Leningrad, Russia. Seeds presented by Prof. N. I. Vavilov, Director of the Bureau of Applied Botany and Plant Breeding. Received June 19, 1924. Notes by Professor Vavilov.

61101 to 61103. TRITICUM AESTIVUM L.
(*T. vulgare* Vill.). Common wheat.

61101. No. 4. Province of Voronezh. *Rusak*.

61102. No. 7106. Georgia, Caucasus. Var. *fuliginosum*. Persian wheat.

61103. No. 10685. Schougnan. Var. *Roschanum*.

61104 to 61198. TRITICUM DURUM Desf.
Durum wheat.

61104. No. 1931. Province of Kuban. Var. *Reichenbachii*.

61101 to 61198—Continued.

61105. No. 6914. Province of Fergan, Turkestan. Var. *affine*.

61106. No. 6924. Province of Don. Var. *Reichenbachii*.

61107. No. 6931. Fergan, Turkestan. Var. *Reichenbachii*.

61108. No. 6951. Transcaspiian Territory. Var. *Libicum*.

61109. No. 7037. Province of Samara. Var. *Reichenbachii*. From the experiment station of Krasny-Kut.

61110. No. 6966. Province of Samara. Var. *africanum*.

61111 to 61121. Var. *coerulescens*.

61111. No. 999. Georgia, Province of Tiflis, Caucasus.

61112. No. 1351. Semipalatinsk, Siberia.

61113. No. 6841. Province of Saratov.

61114. No. 6944. Persia.

61115. No. 6845. Province of Samara. From the experiment station of Krasny-Kut.

61116. No. 6853. Province of Saratov.

61117. No. 6858. Province of Samara. From the experiment station of Krasny-Kut.

61118. No. 6861. Province of Samara. From the experiment station of Krasny-Kut.

61119. No. 6862. Province of Samara. From the experiment station of Krasny-Kut.

61120. No. 6863. Province of Samara. From the experiment station of Krasny-Kut.

61121. No. 6892. Province of Orenburg.

61122 to 61183. Var. *hordeiforme*.

61122. No. 5. Province of Voronezh. *Kubanka*.

61123. No. 145. Semipalatinsk, Siberia.

61124. No. 254. Province of Tomsk, Siberia.

61125. No. 255. Province of Tomsk, Siberia.

61126. No. 6598. Province of Samara. From the experiment station of Krasny-Kut.

61127. No. 6601. Semiryechensk. *Beloturka*.

61128. No. 6602. Province of Yeniseisk, Siberia.

61129. No. 6604. Province of Saratov.

61130. No. 6606. Province of Samara. From the experiment station of Krasny-Kut.

61131. No. 6607. Province of Samara. From the experiment station of Krasny-Kut.

61132. No. 6613. Province of Samara. From the experiment station of Krasny-Kut.

61101 to 61198—Continued.

61133. No. 6616. Province of Samara. *Kubanka*. From the experiment station of Krasny-Kut.
61134. No. 6617. Province of Samara. From the experiment station of Krasny-Kut.
61135. No. 6619. Province of Don. *Kubanka*.
61136. No. 6620. Province of Voronezh.
61137. No. 6623. Turgaisk Province, Central Asia.
61138. No. 6625. Province of Poltava.
61139. No. 6627. Province of Samara.
61140. No. 6630. Province of Samara. From the experiment station of Krasny-Kut.
61141. No. 6632. Province of Fergan, Turkestan.
61142. No. 6634. Province of Samara. From the experiment station of Krasny-Kut.
61143. No. 6636. Province of Samara.
61144. No. 6640. Province of Samara. From the experiment station of Krasny-Kut.
61145. No. 6641. Province of Orenburg. *Beloturka*.
61146. No. 6644. Province of Samara.
61147. No. 6646. Province of Samara.
61148. No. 6648. Province of Saratov.
61149. No. 6649. Province of Tomsk, Siberia. *Kubanka*.
61150. No. 6651. Province of Syrdaria, Turkestan.
61151. No. 6653. Province of Samara. From the experiment station of Krasny-Kut.
61152. No. 6654. Province of Samara.
61153. No. 6655. Province of Saratov.
61154. No. 6662. Persia.
61155. No. 6672. Province of Saratov.
61156. No. 6673. Province of Samara.
61157. No. 6675. Province of Samara. *Beloturka*. From the experiment station of Krasny-Kut.
61158. No. 6676. Province of Samara. From the experiment station of Krasny-Kut.
61159. No. 6677. Province of Samara. From the experiment station of Krasny-Kut.
61160. No. 6683. Province of Saratov. *Beloturka*.
61161. No. 6685. Province of Fergan, Turkestan. *Kubanka*.
61162. No. 6686. Province of Fergan, District of Zaisan, Turkestan. *Kubanka*.
61163. No. 6687. Province of Saratov. *Beloturka*.

61101 to 61198—Continued.

61164. No. 6693. Nicol'sk-Ussurijsk.
61165. No. 6696. Nicol'sk-Ussurijsk.
61166. No. 6697. Transcaspiian Territory.
61167. No. 6698. Turkestan.
61168. No. 6708. Province of Podolia.
61169. No. 6711. Province of Samara.
61170. No. 6719. Province of Tomsk, Siberia.
61171. No. 6727. Province of Saratov.
61172. No. 6730. Province of Samara, Nicolaev.
61173. No. 6733. Province of Samara, Busuluk.
61174. No. 6761. Province of Samara.
61175. No. 6978. Province of Samara. From the experiment station of Krasny-Kut.
61176. No. 6979. Province of Samara. From the experiment station of Krasny-Kut.
61177. No. 6984. Transcaspiian Territory.
61178. No. 6988. Province of Saratov.
61179. No. 6990. Province of Voronezh.
61180. No. 6992. Province of Samara. From the experiment station of Krasny-Kut.
61181. No. 6995. Province of Samara. From the experiment station of Krasny-Kut.
61182. No. 6999. Province of Saratov.
61183. No. 7058. Province of Samara. From the experiment station of Krasny-Kut.
- 61184 to 61195. Var. *melanopus*.
61184. No. 490. Province of Don.
61185. No. 807. Bessarabia.
61186. No. 836. Province of Don.
61187. No. 6720. Province of Tomsk, Siberia. *Serouska*.
61188. No. 6772. Province of Tomsk, Siberia.
61189. No. 6777. Province of Eniseisk, Siberia.
61190. No. 6784. Province of Samara. From the experiment station of Krasny-Kut.
61191. No. 6790. Province of Samara. From the experiment station of Krasny-Kut.
61192. No. 6797. Province of Samara. From the experiment station of Krasny-Kut.
61193. No. 6821. Turkestan.
61194. No. 6831. Province of Samara, District of Novousensk.
61195. No. 7013. Province of Samara, District of Novousensk.

61101 to 61198—Continued.

61196 to 61198. Var. *murciense*.

61196. No. 6897. Province of Samara. From the experiment station of Krasny-Kut.

61197. No. 6901. Province of Samara. From the experiment station of Krasny-Kut.

61198. No. 6905. Province of Fergan, Turkestan.

61199. *MEDICAGO SATIVA* L. Fabaceæ.
Alfalfa.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

April 19, 1924. Procured from the highest point reached by the Trans-Andean Railroad, at an altitude of about 10,000 feet. (Westover.)

61200. *CITRUS MEDICA* L. Rutaceæ.
Citron.

From the island of Corsica. Cuttings received August 1, 1924.

For testing by horticulturists engaged in citrus-breeding experiments.

61201 to 61223.

From the Union of South Africa. Collected by H. L. Shantz, Bureau of Plant Industry. Received July and August, 1924. Notes by Doctor Shantz.

61201. *MARANTA ARUNDINACEA* L. Araceæ.
Bermuda arrowroot.

No. 292. Livingstonia, Nyasaland. April 30, 1924. Arrowroot grown by the natives on the highlands above Nyasa.

61202. *DISA* sp. Orchidaceæ.

No. 289. Livingstonia, Nyasaland, April 29, 1924. A beautiful blue terrestrial orchid, growing abundantly in mountain grassland west of Nyasa and said to be one of the most beautiful flowers here.

61203. *ORNITHOGALUM* sp. Liliaceæ.

No. 453. Deedorns, Cape Province. June 16, 1924. Lilylike bulbs from the desert at the edge of the karoo.

61204. (Undetermined.)

No. 446. Deedorns, Cape Province. June 16, 1924. A handsome lilylike plant with yellow-tipped, red flowers. Not only is the flower of this plant attractive but the foliage is also somewhat variegated.

61205. *COTYLEDON* sp. Crassulaceæ.

No. 444. Deedorns, Cape Province. June 16, 1924. This forms a fleshy, tree-like plant, reaching a height of 6 feet or more. It is leafless during the dry period, but the whole plant stem usually remains soft and green. At the beginning of growth it develops a bulbous stem which reminds one of true bulbous plants.

61206. (Undetermined.)

No. 445. Deedorns, Cape Province. June 16, 1924. Bulbs of a liliaceous plant about 6 inches in diameter, which usually is very abundant throughout this section. The plant has a curious habit of forming a new bulblet at the base of each of the leaves when the old bulb dies. It is produced in great abundance at the edge of the karoo.

61201 to 61223—Continued.

61207. (Undetermined.)

Same as No. 445 [S. P. I. No. 61206], but has small bulblets.

61208. (Undetermined.)

No. 446a. Deedorns, Cape Province. June 16, 1924. A lilylike plant with attractive, yellow-tipped, red flowers.

61209. *BABIANA* sp. Iridaceæ.

No. 447. Deedorns, Cape Province. June 16, 1924. A very attractive iridaceous plant growing over a large portion of South Africa.

61210. (Undetermined.)

No. 448. Deedorns, Cape Province. June 16, 1924. A bulbous plant similar in general character to *Massonia*.

61211. (Undetermined.)

No. 449. Deedorns, Cape Province. June 16, 1924. A bulbous plant similar in general character to *Massonia*.

61212. (Undetermined.)

No. 452. Deedorns, Cape Province. June 16, 1924. A small liliaceous plant.

61213. *BUPHANE DISTICHA* (L. f.) Herbert. Amaryllidaceæ.

No. 459. Cape Town, Cape Province. June 22, 1924. A plant, typically South African, with a very large bulb and stems a foot in diameter. It contains a very powerful toxic alkaloid called hæmanthine, and was one of the sources of arrow poison used by the bushmen. The bulb sends up a large head of small flowers.

61214. *COTYLEDON* sp. Crassulaceæ.

No. 444a. Deedorns, Cape Province. June 16, 1924. This is a fleshy, tree-like plant, reaching a height of 6 feet or more. It is leafless during the dry period, but the whole plant stem usually remains soft and green. At the beginning of growth it develops a thickened stem which reminds one of true bulbous plants.

61215. *GLADIOLUS* sp. Iridaceæ.

No. 287. Livingstonia, Nyasaland. April 29, 1924. A fine, large type, probably yellow flowered.

61216. *GLADIOLUS* sp. Iridaceæ.

No. 288. April 29, 1924. From the west escarpment above Nyasa near Livingstonia. A beautiful, small, pink, frail gladiolus; flowers few but large.

61217. *BULBINE* sp. Liliaceæ.

No. 286. Livingstonia, Nyasaland. April 29, 1924. A fine, tall, wild type, with deep-blue to purple flowers; abundant throughout the grassland.

61218. (Undetermined.)

No. 290. Livingstonia, Nyasaland. Said to have very attractive flowers. These lilies grow in a heavy clay (lateritic) soil in a region where drought occurs but is not very severe.

61219. (Undetermined.)

No. 455. Deedorns, Cape Province. June 16, 1924. From the karoo.

61201 to 61223—Continued.

61220. (Undetermined.)

No. 450. Deedorns, Cape Province. June 16, 1924. A curious tuberous plant.

61221. (Undetermined.)

No. 454. Deedorns, Cape Province. June 16, 1924. A fleshy leaved bulbous plant from the desert and the edge of the karoo.

61222. (Undetermined.)

No. 451. Deedorns, Cape Province. June 16, 1924. A plant with a small green spike.

61223. COTYLEDON sp. Crassulaceæ.

No. 444b. Deedorns, Cape Province. June 16, 1924. This is a fleshy, treelike plant, reaching a height of 6 feet or more. It is leafless during the dry period, but the whole plant stem usually remains soft and green. At the beginning of the wet season it develops a thickened stem which reminds one of the true bulbous plants.

61224. PRUNUS SPINOSA × DOMESTICA. Amygdalaceæ. Hybrid plum.

From Koslov, Tambov Government, Russia. A form developed at the Plant Introduction Garden, Chico, Calif., from one of the original 14 cuttings received in 1911 from I. V. Mijurin, Koslov, through Frank N. Meyer, agricultural explorer. Numbered July, 1924.

Fruit $1\frac{1}{2}$ to $1\frac{3}{4}$ inches in diameter; pale yellow mottled with brownish, irregular blotches; cavity small, shallow; suture more or less prominent; skin thick; flesh yellow, melting, very juicy and deliciously sweet; pit small, practically free.

61225 to 61229. CORCHORUS spp. Tiliaceæ. Jute.

From Dacca, eastern Bengal, India. Seeds presented by R. S. Finlow, fiber expert to the Government of Bengal. Received July 30, 1924.

Native varieties of jute introduced for fiber-plant specialists. The quoted notes are from the Bengal Agricultural Journal, vol. 2, no. 1, 1922.

61225. CORCHORUS OLITORIUS L.

"Chinsura Green, a selected type of Bogey jute which was raised by the fiber expert to the Government of Bengal and has given exceptionally heavy yields in western Bengal." (P. 7.)

For previous introduction see S. P. I. No. 55973.

61226 to 61229. CORCHORUS CAPSULARIS L.

For previous introduction see S. P. I. No. 45809.

61226. *Kalir Char*. Locally grown seeds, Khulua, Bengal.61227. *Kaya Bombai* (mixed with *Kalir Char*).

61228. "R. 35. An eastern Bengal jute with the reputation of being a heavy yielder. It was selected by the fiber expert from the Kakai Bombai strain and is resistant to the disease known as 'chlorosis,' which causes yellowing of the leaves." (P. 7.)

61229. *D. 154*.

61230. JASMINUM SAMBAC (L.) Ait. Oleaceæ. Arabian jasmine.

From Nogent sur Marne, Seine, France. Plant presented by the director, Colonial Garden. Received August 8, 1924.

Arabian jasmine is cultivated in India for the sake of the oil, used in perfumery, which is obtained from the fragrant flowers. It is now introduced for the use of specialists investigating oil plants which yield perfume.

61231 to 61234.

From South America. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61231. BROMUS UNIOLOIDES (Willd.) H. B. K. Poaceæ. Rescue grass.

April 5, 1924. Collected near Sucre, Buenos Aires, Argentina. Locally known as Australian brome or cebadilla. Highly prized as winter pasture grass.

61232. GALEGA OFFICINALIS L. Fabaceæ. Goat's-rue.

Collected near Hospital, O'Higgins Province, Chile. This plant makes a very vigorous growth during the summer months and might be of some value in sections of this country where a summer green-manuring crop is desired.

61233. GOSSYPIUM sp. Malvaceæ. Cotton.

June 1, 1924. Collected from a large plant growing along the ditch bank several miles above Alto del Carmen, Chile.

61234. HORDEUM DISTICHON PALMELLA Harlan. Poaceæ. Two-rowed barley.

May 2, 1924. Hacienda Eltambo, Mal-lao, Chile.

61235 to 61237. COIX LACRYMA-JOBI MAYUEN (Rom.) Stapf. Poaceæ. Adlay.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, Director, Bureau of Agriculture, at the request of P. J. Wester, Bureau of Agriculture. Received September 17, 1924.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to Mr. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

61235. *Bontac*. 61237. *Davao*.61236. *La Union Red*.

61238 to 61242.

From Buitenzorg, Java. Plants presented by Dr. C. J. J. Van Hall, Department of Agriculture, Buitenzorg, through Carl Hartley, Bureau of Plant Industry. Received July 18, 1924.

61238. CASTANOPSIS ARGENTEA (Blume) A. DC. Fagaceæ.

No. 2. An evergreen East Indian chestnut 50 to 60 feet high, with thin, narrow leaves about 7 inches long and dense clusters of spiny burs; each bur is about 2 inches wide and usually contains a single nut an inch in diameter. According to Doctor Hartley, these nuts are edible.

For previous introduction see S. P. I. No. 57732.

61238 to 61242—Continued.

61239 to 61242. *QUERCUS* spp. Fagaceæ.
Oak.

These four East Indian oaks are introduced for trial in the warmer parts of the southern United States as shade trees and as possible sources of tannin. The descriptive notes are taken from Miquel's *Flora van Nederlandsch Indie*, vol. 1, and from Ridley's *Flora of the Malay Peninsula*, vol. 3.

61239. *QUERCUS BLUMEANA* Korth.

No. 3. A rather uncommon tree, 40 to 50 feet high, with narrowly oblong, leathery leaves about 8 inches long and roundish silky tomentose acorns three-fourths of an inch wide.

61240. *QUERCUS INDUTA* Blume.

No. 9. A tree with long-pointed, entire leaves and flattened acorns.

61241. *QUERCUS SUNDAICA* Blume.

No. 6. A tall tree, 60 to 80 feet high, with silvery, thinly coriaceous elliptic leaves, and fruits in rather crowded stout spikes. The dark chestnut-colored ovoid-conic acorns are an inch in greatest diameter.

61242. *QUERCUS TEYSMANNII* Blume.

No. 4. A tree with serrate, narrowly oblong, leathery leaves about 6 inches long and ovoid-globose acorns an inch and a half in diameter.

61243 and 61244. *FRAGARIA* spp. Rosa-
ceæ. Strawberry.

From The Hague, Netherlands. Plants presented by the American vice consul, The Hague. Received September 12, 1924.

Dutch strawberry varieties introduced for testing by horticulturists.

61243. *FRAGARIA* sp.

Breadasche.

61244. *FRAGARIA* sp.

"*Deutsch Evern.* A prolific variety with very large, delicious berries." (J. Abbing & Sons, Zeist, Netherlands, 1922-1923 catalog.)

61245 to 61252.

From Cape Town, Union of South Africa. Bulbs purchased from W. S. Duke & Co., Cape Town, through H. L. Shantz, Bureau of Plant Industry. Received September 18, 1924.

61245. *BRUNSVIGIA JOSEPHINAE* (Red.)
Ker. Amaryllidaceæ.

No. 467. A South African bulbous plant 2 to 3 feet high with eight or ten thick, closely ribbed, strap-shaped leaves and large, brick-red flowers.

61246. *BUPHANE CILIARIS* (L.) Herbert.
Amaryllidaceæ.

No. 470. The flower stalks of this remarkable South African amaryllidaceous plant appear before the leaves and bear 50 to 100 dull-purple flowers. The thick, strap-shaped leaves appear later.

61247. *GLADIOLUS* sp. Iridaceæ.

A South African variety.

61245 to 61252—Continued.

61248. *HÆMANTHUS KATHERINAE* Baker.
Amaryllidaceæ. Blood lily.

An attractive bulbous plant, native to South Africa, with three to five oblong, pointed leaves borne on a separate stem which appears with the flowers. The bright-red flowers are produced at the summit of an upright peduncle which grows from the base of the leaf stem.

61249. *ORNITHOGALUM NATALENSE* Baker.
Liliaceæ.

A white-flowered bulbous plant from the Cape of Good Hope, where several members of this genus are known as "chinchinchees." The dried flower clusters are prized there as "everlastings."

61250. *TRITONIA* sp. (*Montbretia* sp.).
Iridaceæ.

The *Tritonias* are South African plants, related to the *Ireses*, with narrow leaves and numerous flowers of various colors. In the trade, *Tritonias* are often known as *Montbretias*.

61251. *WATSONIA ROSEA* Ker. Iridaceæ.
Bugle lily.

A robust pink-flowered species, 4 to 6 feet high, with strap-shaped narrow leaves. The flowers are in dense or lax spikes, the terminal spikes measuring 6 inches to a foot in length. Native to South America.

61252. *WATSONIA* sp. Iridaceæ.
Bugle lily.

The *Watsonias* are South African ornamental plants closely related to the *gladiolus*.

61253. *CANARIUM OVATUM* Engl. Bal-
sameaceæ. Pili nut.

From Manila, Philippine Islands. Nuts presented by H. T. Edwards, Bureau of Plant Industry. Received July 29, 1924.

Pili nuts as grown in the Philippines are quite variable in quality, and these now sent in by Mr. Edwards are from particularly choice strains. The tree which is rarely cultivated, is tall, at times reaching 130 feet in height, with dark-green, pinnate leaves over a foot long. According to P. J. Wester (Food Plants of the Philippines), the triangular, pointed nut, inclosed in a black, shining shell, is excellent when eaten raw or roasted and is of high food value.

For previous introduction see S. P. I. No. 54434.

61254 to 61257.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61254. *PANICUM MILIOIDES* Nees. Poaceæ.
Grass.

April, 1924. Collected near Sucre, Buenos Aires.

61255 to 61257. *PASPALUM DILATATUM*
Poir. Poaceæ. Dallis grass.

61255. March 28, 1924. Collected near Mercedes, Buenos Aires.

61254 to 61257—Continued.

61256. April 5, 1924. Collected near Sucre, Buenos Aires, Argentina. This is one of the most abundant grasses in this locality.

61257. March 30, 1924. Collected near Lupan de Cuyo, Mendoza, Argentina.

61258 to 61267. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceæ.
Soy bean.

From Marugame, Sanuki Province, Japan. Seeds presented by J. Woodrow Hassell. Received August 6, 1924.

Introduced for testing by agronomists engaged in soy-bean experiments.

61258. No. 1. 61263. No. 6.

61259. No. 2. 61264. No. 7.

61260. No. 3. 61265. No. 8.

61261. No. 4. 61266. No. 9.

61262. No. 5. 61267. No. 10.

61268. CLITANDRA ELASTICA Cheval.
Apocynaceæ.

From Nigeria, Africa. Seeds presented by the senior conservator of forests, Oloke-meji, Southern Provinces. Received July 29, 1924.

A black rubber of good quality is obtained from this plant by the natives of Nigeria, where it grows wild. It is described by Holland (Useful Plants of Nigeria) as a climbing plant up to 60 feet in height, with elliptic, dark-green leaves, paler below, and spherical fruits the size of a mandarin orange. It is one of the principal sources of vine rubber on the Ivory Coast. When cut to the ground the vine shoots up again from the base. It is introduced for department rubber specialists.

61269 and 61270.

From Summit, Canal Zone. Seeds presented by Holger Johansen, Agronomist, Plant Introduction Garden. Received August 11, 1924.

61269. ARTOCARPUS COMMUNIS Forst.
Moraceæ. Breadfruit.

The jackfruit (*Artocarpus integra*) has been grown successfully in southern Florida. The closely allied breadfruit, however, has not yet received an adequate trial in that State, and the department is now attempting to establish this tree in that region. Although it is not anticipated that the breadfruit tree will ever become of economic importance in the continental United States, it is thought that it may prove an interesting addition to the list of tropical economic plants which can be grown in the gardens of southern Florida.

For previous introduction see S. P. I. No. 57771.

61270. RHEEDIA sp. Clusiaceæ.

Seeds of a native Rheedia. (Johansen.)

Some of the members of this genus of tropical trees have edible fruits. The mangosteen (*Garcinia mangostana*) belongs to this family.

61271. HIBISCUS sp. Malvaceæ.

From Koro Levu, via Nadvoga, Fiji. Seeds presented by E. M. Bucknell. Received August 1, 1924.

A very handsome hibiscus with single flowers; these are deep, rich red. The plant is straggly in habit, being almost a vine. Propagation is easily effected by seeds. (Bucknell.)

61272. AVENA ABYSSINICA Hochst. Poa-
ceæ. Oats.

From Asmara, Eritrea, Africa. Seeds presented by the Direttore dell' Ufficio Agrario Sperimentale. Received August 1, 1924.

In the upper part of the middle, or sub-tropical zone, of Abyssinia, where the altitude is approximately 8,000 feet, and also at still higher altitudes in some places, this species of oats is cultivated both as a cereal and for forage, according to Chiovenda (*Osservazioni Botaniche nell' Etiopia*). Besides the typical form, a number of local strains have been reported.

61273. CORYLOPSIS GOTOANA Makino.
Hamamelidaceæ.

From Jamaica Plain, Mass. Cuttings presented by Prof. C. S. Sargent, Arnold Arboretum. Received August 12, 1924.

This is the hardiest member of the genus *Corylopsis*, according to E. H. Wilson, of the Arnold Arboretum, where the plant has never suffered winter injury. It is a wide-spreading, twiggy shrub with delicately fragrant, lemon-yellow flowers in slender, pendent racemes and is one of the first shrubs to bloom in the spring. The individual flowers, three-eighths of an inch across, are rich in nectar. This species is native to the rugged mountains of central Japan.

61274 to 61278.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, Regius Keeper, Royal Botanic Garden. Received June 16, 1924. Notes by Mr. Smith.

Local Tibetan strains of crop plants secured for testing by agronomists.

61274. HORDEUM VULGARE COELESTE L.
Poaceæ. Six-rowed barley.

No. 1. From Tuna, at an altitude of about 14,500 feet.

61275. HORDEUM VULGARE COELESTE L.
Poaceæ. Six-rowed barley.

No. 2. From Dochen, at an altitude of about 14,000 feet.

61276. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

No. 3. From Khangma, at an altitude of about 13,500 feet.

61277 and 61278. PISUM SATIVUM L. Fa-
baceæ. Pea.

61277. No. 4. From Khangma, at an altitude of about 13,500 feet.

61278. No. 5. From Gyantse, at an altitude of about 13,000 feet.

61279 to 61298. ORYZA SATIVA L. Poa-
ceæ. Rice.

From Canton, China. Seeds presented by Edward Shim, Department of Agriculture, Canton Christian College. Received July 15, 1924.

61279. Bak Hok Law.

61279 to 61298—Continued.

61280. *Fah Loh Check*.
 61281. *Goi Leong Tung Koon Bak*.
 61282. *Ho Kau Guk*.
 61283. *Siu Goo Sun*.
 61284. *Ka Ying Zao*.
 61285. *Kong Sai Zao*.
 61286. *Lok Yip Chim*.
 61287. *Ngung Chim*.
 61288. *Siu Goo Sun*.
 61289. *So She Bak*.
 61290. *Sui Sun Guk*.
 61291. *Sw Lo Bak*.
 61292. *Szechuan Chim*.
 61293. *Tai Yip Chim*.
 61294. *Tung Koon Bak*.
 61295. *Vung Ying Chim*.
 61296. *Vung Ying Chun Chim*.
 61297. *Yuen Zui Hung*.
 61298. *Zau Kau Lau*.

61299 and 61300. *SOJA MAX (L.) Piper*
 (*Glycine hispida* Maxim.). Fabaceæ.
 Soy bean.

From Fukuoka, Japan. Seeds presented by Dr. Tyozaburo Tanaka, in charge, Horticultural Institute, Department of Agriculture, Kyushu Imperial University. Received July 24, 1924. Notes by Doctor Tanaka.

61299. *Shiro Aki Daidzu* (white autumn bean). From the Saga Prefectural Agricultural Experiment Station.

61300. *Kuro Aki Daidzu* (black autumn bean). From the Saga Prefectural Agricultural Experiment Station.

61301. *GARCINIA MANGOSTANA L.* Clusiaceæ. Mangosteen.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received August 18, 1924.

Mangosteen seeds, originally from Asia; introduced for testing in the tropical dependencies of the United States.

For previous introduction see S. P. I. No. 58027.

61302. *AMYGDALUS PERSICA* × *PERSICA*
NECTARINA. Amygdalaceæ.

Hybrid peach.

A hybrid originated at the Plant Introduction Garden, Chico, Calif., and now numbered, July 1924, for convenience in distribution.

This variety was produced by J. E. Morrow, superintendent of the Chico Garden, by crossing the Bolivian Cling (S. P. I. No. 36126) and the Quetta nectarine (S. P. I. No. 34684). A description of the fruit follows:

Fruit nearly round, 2 inches in diameter; cavity medium sized, mid-abrupt; suture mostly distinct, shallow; apex with very small point; skin light greenish yellow, overlain with red at stem end and side, slightly tough, separating readily

from the flesh, with heavy tomentum; flesh white, little fiber, juicy, firm, pleasing peachy flavor, clinging to pit; pit large for size of fruit, $1\frac{1}{4}$ inches by 1 inch. A good fruit for home use.

61303. *LYCOPERSICON ESCULENTUM* Mill. Solanaceæ. Tomato.

From Nancagua, Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

May 7, 1924. This is said to be the wild tomato, but probably it is the cultivated form which has escaped. (Westover.)

61304 to 61309. *AVENA* spp. Poaceæ.

From Melbourne, Victoria, Australia. Seeds presented by A. E. V. Richardson, Superintendent of Agriculture. Received August 6, 1924. Quoted notes from the Australian Institute of Science and Industry, Bulletin No. 23.

61304 and 61305. *AVENA STERILIS L.* Oats.

61304. "*Algerian*. A very good general-purpose oat, giving excellent yields in all districts except those where a very early variety is necessary. Occasionally reported as having a tendency to shatter and lodge, but on the whole does neither. Season medium; stooling medium to abundant. The panicle is equilateral, spreading, erect, and rather short." (P. 27.)

61305. "*Calcutta*. Straw weaker than Algerian [S. P. I. No. 61304], and more inclined to lodge. This variety is reported to be early in most districts, but it is sometimes considered as midseason. The panicle is equilateral, spreading, and erect. (P. 26.)

61306 to 61308. *AVENA SATIVA L.* Oats.

61306. "*Dun*. A general-purpose variety for the colder districts. Season late; stooling abundant; the panicle equilateral and erect." (P. 21.)

61307. "*Quandong*. Medium stooler as compared with Ruakura [S. P. I. No. 61308], but has slightly taller, stronger straw. Good variety for dry districts. Season early; panicle equilateral, spreading, erect, and rigid." (P. 22.)

61308. "*Ruakura*. Good general-purpose oat. Season early; stooling abundant; panicle equilateral, spreading, erect, rigid, lateral branches rigid." (P. 25.)

61309. *AVENA SATIVA* × *STERILIS*.

Hybrid oats.

"*Yarran*. Season early; stooling medium, panicle equilateral, erect, long, branches erect, number of lateral branches seven to twelve." (P. 24.)

61310 and 61311. *ZEA MAYS L.* Poaceæ. Corn.

From Peru, South America. Seeds collected by Fred D. Richey, of the Bureau of Plant Industry, and Prof. R. A. Emerson, of Cornell University. Received July 31, 1924.

Introduced for agronomists experimenting with corn varieties.

61310. *Laurel*.

61311. *Granada*.

61312. CITRUS AURANTIFOLIA (Christm.) Swingle. Rutaceæ. Lime.

From Panama. Seeds collected by David Fairchild, Bureau of Plant Industry. Received August 23, 1924.

August 2, 1924. A wild lime growing in dense shade on the new Lathrop Trail just opened up across Barro Colorado Island. The fruits were of medium size, with few seeds, and of excellent quality. (Fairchild.)

61313. MARTINEZIA EROSA Linden. Phœnicaceæ. Palm.

From Santiago de las Vegas, Cuba. Seeds presented by Gonzalo Fortun, Director, Estación Experimental Agronómica, through David Fairchild, Bureau of Plant Industry. Received July 25, 1924.

A small ornamental feather-leaved palm from tropical America which is covered throughout with long, needlelike spines. A related species (*M. caryotaefolia*) is grown to some extent in lower Florida.

For previous introduction see S. P. I. No. 51724.

61314. HORDEUM DISTICHON PALMELLA Harlan. Poaceæ. Two-rowed barley.

From Czechoslovakia. Seeds presented by Scheuker & Co., Bron. Received August 12, 1924.

To be grown for comparison and cultural tests.

61315 and 61316. URCEOLA ESCULENTA (A. DC.) Benth. Apocynaceæ.

From Maymyo, India. Seeds presented by Charles T. Bogg, Superintendent, Government Botanic Garden. Received July 14, 1924.

A vigorous climber from eastern India, which, according to Watt (Dictionary of the Economic Products of India), has received some consideration in that country as a source of rubber. In Burma the plant is cultivated to some extent for the edible fruit, which is about the size of an orange and popular with the natives. It is now introduced for department specialists experimenting with rubber-yielding plants.

61315. From the Conservator of Forests, Tavoy. (Bogg.)

61316. From the Extra Assistant Conservator of Forests, Mergui. (Bogg.)

61317 to 61321.

From Japan. Seeds presented by K. Matsushima, through W. S. Field, San Francisco, Calif. Received July 15, 1924.

A collection of seeds sent in without notes; to be grown and tested for value as forage.

61317. AGROPYRON SEMICOSTATUM Nees. Poaceæ. Grass.

A perennial, fibrous-rooted grass, with erect stems and narrowly linear leaves. Native to Afghanistan.

61318. AGROPYRON sp. Poaceæ. Grass.

61319. HORDEUM NODOSUM L. (*H. secalinum* Schreb.). Poaceæ. Grass.

A perennial, European grass, of upright habit, about a foot in height.

61317 to 61321—Continued.

61320. MELILOTUS SUAVEOLENS Ledeb. Fabaceæ. Sweet clover.

A Siberian sweet clover introduced for cultural and comparison tests.

61321. VICIA AMOENA Fisch. Fabaceæ. Vetch.

A perennial Siberian vetch, with stems up to 4 feet in length and purplish flowers.

61322. MELILOTUS INDICA (L.) All. Fabaceæ. Sweet clover.

From Simla, India. Seeds presented by H. E. J. Peake, Khaltoo Fruit Orchards, Solan brewery. Received July 17, 1924.

A local strain of annual yellow melilot, collected near the Solan brewery; introduced for testing by agronomists.

61323. HETEROSPATHE ELATA Scheff. Phœnicaceæ. Palm.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, Director, Bureau of Agriculture, at the request of P. J. Wester, Manila. Received July 18, 1924.

A tall, unarmed palm, with a slender, straight stem and long pinnate leaves, growing in protected situations and where the rainfall is evenly distributed. It is one of the most attractive and graceful palms that I have seen, and from my experience with it at Lamao it will make a good plant for the conservatory and possibly a good house palm. (Wester.)

For previous introduction see S. P. I. No. 46640.

61324 to 61328.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received July 5, 1924.

61324. ANOPTERUS GLANDULOSUS Labill. Escalloniaceæ.

A handsome evergreen shrub, abundant in Tasmanian forests, with leathery, toothed leaves and rather large flowers, white with a rosy tint, produced in erect, terminal racemes.

61325 and 61326. BILLARDIERA LONGIFLORA Labill. Pittosporaceæ.

A twining shrub, sometimes several feet in length, with leaves varying from oval to linear in shape and from half an inch to 2 inches in length. The flowers are pendulous on solitary stems an inch long. This plant grows wild along watercourses in Australia and Tasmania.

For previous introduction see S. P. I. No. 56562.

61325. Pink flowers.

61326. Blue flowers.

61327. DRIMYS LANCEOLATA (Poir) Baill. (*D. aromatica* F. Muell.). Magnoliaceæ.

The bark of this Tasmanian shrub or small tree, like that of its Chilean relative (*Drimys winteri*), possesses aromatic properties, and the round drupes, about the size of a pea, are used as a condiment.

61324 to 61328—Continued.

61328. *RICHEA DRACOPHYLLA* R. Br. Euphorbiaceae.

A stout Tasmanian shrub or small tree, described by Bentham (*Flora Australiensis*) as having long, narrow leaves crowded at the ends of the branches, and white or pink flowers, nearly half an inch long, in dense terminal clusters.

61329. *EUPHORBIA ABYSSINICA* Gmel. Euphorbiaceae.

From Asmara, Eritrea, Africa. Seeds presented by the Direttore dell' Ufficio Agrario Sperimentale. Received August 1, 1924.

E. O. Fenzi, of Tripoli, Libia, states (under S. P. I. 61366) that this plant may prove of special interest, since it grows in the poorest and driest soil, attains a height of 30 to 40 feet, and yields a large quantity of latex containing about 5 per cent of first-class rubber.

61330. (Undetermined.)

From Balavaini, Marovo Lagoon, Solomon Islands. Tubers presented by H. Trevor Fairbrother. Received August 6, 1924.

The tubers of this plant are small, about the size, shape, and flavor of Morton's tinned new potatoes. The plant bears in about two months from planting, and the "potatoes" are not borne underground, but on the vine, which bears from 300 to 2,000 tubers of varying size. This is an ideal substitute for the potato. (*Fairbrother*.)

61331. *CRATAEGUS ORIENTALIS* Pall. Malaceae. Hawthorn.

From Kew, England. Seeds presented by Dr. Arthur W. Hill, Director, Royal Botanic Gardens. Received November 10, 1923. Numbered July, 1924.

A shrub or small tree, native to dry, stony places in Asia Minor and southeastern Europe. According to the late Frank N. Meyer (in his note under S. P. I. 26765), it is able to withstand much heat and drought. The flowers are in dense corymbs, and the fruits are dark red.

For previous introduction see S. P. I. No. 26765.

61332 and 61333. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Edinburgh, Scotland. Seeds presented by John Donaldson & Co. through G. C. Edler, Bureau of Agricultural Economics. Received August 15, 1924.

Local clover strains from two localities in England, introduced for testing by clover specialists.

61332. No. 1. 61333. No. 2.

61334 to 61352.

From Sapporo, Japan. Seeds presented by J. Minami, College of Agriculture, Sapporo, through C. R. Ball, Bureau of Plant Industry. Received August 15, 1924.

Introduced for specialists engaged in experimenting with various types of cereals.

61334 to 61338. *HORDEUM DISTICHON* PALMELLA Harlan. Poaceae.

Two-rowed barley.

61334 to 61352—Continued.

61334. *Chevalier* (spring).

61335. *Golden melon* (spring).

61336. *Hanna* (spring).

61337. *Hokudai No. 1* (spring).

61338. *Date No. II* × *Hokudai No. I* (winter).

61339 to 61342. *HORDEUM VULGARE* PALLIDUM Seringe. Poaceae.

Six-rowed barley.

61339. *Erhardt Frederiksens* (spring).

61340. *Imperial* (spring).

61341. *Date No. II* (winter).

61342. *Date No. II* × *Hokudai No. I* (winter).

61343 to 61350. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae.

Common wheat.

61343. *Green Mountain* (spring).

61344. *Sapporo* (spring).

61345. *White fife* (spring).

61346. *Akakawa aka* (red grain, winter).

61347. *Red genealogical* (winter).

61348. *Sandmilka* (winter).

61349. *Shirokawa shiro* (white grain, winter).

61350. *White Champion* (winter).

61351 and 61352. *TRITICUM DURUM* Desf. Poaceae.

Durum wheat.

61351. *Medea* (spring).

61352. *Roumania* (spring).

61353 to 61355. *TRIFOLIUM PRATENSE* L. Fabaceae.

Red clover.

From Lemberg, Poland. Seeds received August 28, 1924. Introduced for testing by clover breeders.

61353. (No. 1.) 61355. (No. 3.)

61354. (No. 2.)

61356 to 61365. *CICER ARIETINUM* L. Fabaceae.

Chick-pea.

From Poona, Bombay, India. Seeds presented by Dr. William Burns, Economic Botanist, College of Agriculture. Received August 20, 1924. Notes by Doctor Burns.

Introduced for trial as stock feed in the southwestern United States.

61356. No. 1. White variety from Poona.

61357. No. 2. Yellow variety from Poona.

61358. No. 3. Small, yellow variety from Dohad.

61359. No. 4. Small, white variety from Dohad.

61360. No. 5. Small, red variety from Dohad.

61361. No. 6. Small variety from Ahmednagar.

61362. No. 7. Yellow variety from Belgau.

61363. No. 8. From Belgau.

61356 to 61365—Continued.

61364. No. 9. Karachi from Mandalay.

61365. No. 10. Burmese from Mandalay.

61366 and 61367.

From Tripoli, Libia, North Africa. Seeds presented by Dr. E. O. Fenzl. Received August 20, 1924.

61366. EUPHORBIA ABYSSINICA Gmel. Euphorbiaceæ.

This may prove of special interest, since it grows in the poorest and driest soil, attaining a height of 30 to 40 feet, and yields a large quantity of latex containing 5 per cent of first-class rubber. (Fenzl.)

For previous introduction see S. P. I. No. 61329.

61367. SALVADORA PERSICA L. Salvadoraceæ.

A shrub or small tree which grows commonly in dense clumps on the shores of Lake Chad, Africa. The seeds contain about 45 per cent of fat, according to Holland (Useful Plants of Nigeria); this is suitable for making candles. The pungent shoots and leaves are eaten as salad and also given to stock as fodder.

For previous introduction see S. P. I. No. 53845.

61368 to 61372. PHASEOLUS CALCARATUS Roxb. Fabaceæ. Rice bean.

From Mandalay, Burma. Seeds presented by M. McGibbon, Economic Botanist, Mandalay, through C. V. Piper, Bureau of Plant Industry. Received August 20, 1924.

Five varieties of rice beans obtained for testing by forage-crop specialists.

61368. *Be or Pe yin*.61369. *Bete or Chinpè*.61370. *Betè Be or Chinpè* (large).61371. *Betè Be or Chinpè* (small).61372. *Kachin-pè*.

61373. BAMBOS POLYMORPHA Munro. Poaceæ. Bamboo.

From Dehra Dun, United Provinces, India. Seeds presented by P. C. Kanjilal, Forest Botanist, Forest Research Institute and College. Received August 13, 1924.

A tropical species found in Bengal and Burma. The plants grow in tufts or clumps, often reaching a height of 60 to 80 feet. The leaves are small, 3 to 7 inches long, and from one-fourth to one-half an inch wide. Suitable only for extreme southern Florida and our tropical insular regions; should thrive in the Canal Zone. The plant is not abundant in the Indian forests but is often met with in tropical botanical gardens such as the one at Calcutta, India.

61374 to 61377. COLOCASIA spp. Araceæ. Taro.

From Papeete, Tahiti. Tubers presented by C. C. Campbell. Received August 25, 1924. Notes by Mr. Campbell.

61374. COLOCASIA sp.

Black variety; a dry-land taro from my plantation on the island of Moorea, at an altitude of about 300 feet.

61374 to 61377—Continued.

61375. COLOCASIA sp.

This is called "Chinese taro" here; I bought it in the market at Papeete.

61376. COLOCASIA sp.

Red variety, from the same locality as the black variety [S. P. I. No. 61374].

61377. COLOCASIA sp.

This is called "tarua" here; it is a very good dry-land plant and was grown on my plantation on Tahiti, at an altitude of 50 feet.

61378 to 61384. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Czechoslovakia. Seeds presented by Dr. Rudolf Kuraz, Czechoslovakian Legation, Washington, D. C. Received August 25, 1924.

Local strains of red clover introduced from Czechoslovakia for breeding tests.

61378. No. 1-B. 61382. No. 5-B.

61379. No. 2-B. 61383. No. 6-B.

61380. No. 3-B. 61384. [No notes.]

61381. No. 4-B.

61385. ACROCOMIA SCLEROCARPA Mart. Phœnicaceæ. Macauba palm.

From Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus, Zacuapam. Received August 26, 1924.

A graceful, spiny, tropical American palm, 30 to 45 feet high, with a terminal cluster of narrow, pinnate leaves. When matured, the inside of the trunk furnishes excellent starch equal in quality to that of the cassava plant. The leaves yield strong fiber, utilized by the natives of Paraguay for making hammocks. From the yellowish fruits, about an inch in diameter, an excellent edible oil is expressed.

For previous introduction see S. P. I. No. 53487.

61386 and 61387.

From La Providencia, Chiapas, Mexico. Presented by Dr. C. A. Purpus. Received August 20, 1924.

61386. CHAMAEDOREA TEPEJILOTE Liebm. Phœnicaceæ. Palm.

Seeds of a relative of the pacayito (*Chamaedorea elegans*); this is a slightly larger palm, becoming about 10 feet high, with leaves 4 feet long. Doctor Purpus says that the undeveloped flowers make an excellent vegetable and are eaten throughout the State of Vera Cruz, Mexico. It grows best in shady places.

61387. XANTHOSOMA VIOLACEUM Schott. Araceæ. Yautia.

Corms of a very handsome Mexican plant, related to the elephant-ear. The leaves are dark bluish green with very dark stems.

61388 to 61392.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61388. AELUROPUS LITTORALIS (Gouan) Parl. Poaceæ. Grass.

A hardy grass which thrives in sandy places and is said to yield hay of high quality.

61388 to 61392—Continued.

61389 to 61391. AGROPYRON spp. Poaceæ.
Grass.

61389. AGROPYRON ORIENTALE (L.) Roem.
and Schult.

An annual, much-branched grass, of prostrate-ascending habit, native to sandy places in Asia Minor and Turkestan.

61390. AGROPYRON SIBIRICUM (Willd.) Beauv.

A perennial, cespitose grass, native to Siberia, with erect or ascending stems about 15 inches high.

For previous introduction see S. P. I. No. 57222.

61391. AGROPYRON TRITICEUM Gaertn.

An annual Siberian grass, much branched at the base, with stems 8 inches or less in length.

61392. ALHAGI PSEUDALHAGI (Bieb.) Desv.
(*A. camelorum* Fisch.). Fabaceæ.
Camel's thorn.

The camel's thorn is a very prickly, herbaceous, perennial plant, native to central Asia. It grows on very dry lands, often strongly alkaline, but is likely to become a serious weed if allowed to get beyond control. The pinkish brown flowers appear to be rich in nectar. Introduced for forage-crop specialists.

61393. ACACIA CAVENIA (Molina) Bertero. Mimosaceæ. Cavan.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

A much-branched, spiny shrub about 20 feet high, native to Chile. The large, globular flower heads are deep yellow and very fragrant. A good hedge plant.

61394 to 61401.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61394. AMMODENDRON KARELINI Fisch. and Mey. Fabaceæ.

A yellow-flowered shrub, native to the shores of the Caspian Sea.

61395. ARTEMISIA SONGARICA Schrenk. Asteraceæ. Wormwood.

A low, shrubby plant, closely related to the wormwoods.

61396 to 61398. ASTRAGALUS spp. Fabaceæ.

61396. ASTRAGALUS CONTORTUPLICATUS L.

An annual plant, with erect or ascending stems 4 to 15 inches long, native to southern Europe.

61397. ASTRAGALUS TESTICULATUS Pall.

A perennial, cespitose, densely hairy astragalus from the desert regions of southern Siberia.

61398. ASTRAGALUS VULPINUS Willd.

A perennial astragalus from the desert regions of southeastern Siberia.

61399. AVENA SATIVA L. Poaceæ. Oats.

A local strain introduced for cultural

61394 to 61401—Continued.

61400. BROMUS DANTHONIAE Trin. Poaceæ.
Grass.

An annual grass, usually upright or ascending in habit, native to southern Europe and central Asia.

61401. BROMUS JAPONICUS Thunb. Poaceæ. Grass.

A biennial, upright or ascending grass of wide distribution in Europe and Asia. It commonly becomes 1 to 2 feet high.

61402. MEDICAGO SATIVA L. Fabaceæ.
Alfalfa.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

June 10, 1924. These seeds were procured through Williamson & Co., and are said to come from the Huasco Valley. (Westover.)

61403. CAPPARIS SPINOSA L. Cappari-
daceæ. Capers.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A trailing shrub armed with stipular spines, with leathery roundish leaves and large, white flowers. The buds are pickled as "capers." Native to the Mediterranean region.

61404 to 61406. PROSOPIS spp. Mimosaceæ.

From South America. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61404. PROSOPIS sp.

Lampa, Chile. May 13, 1924. Trees very large, with trunk sometimes attaining a diameter of 1½ feet or more.

61405. PROSOPIS sp.

Paso de los Andes, Mendoza, Argentina. March 31, 1924.

61406. PROSOPIS sp.

Alto del Carmen, Chile. June 1, 1924.

61407. CICER ARIETINUM L. Fabaceæ.
Chick-pea.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

Introduced for testing as forage.

61408 to 61410. PASPALUM DISTICHUM L. Poaceæ. Grass.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61408. Cunaco. May 7, 1924.

61409. June 5, 1924. From the estate of Señor Izquierdo, Santa Ines.

61410. May 7, 1924. Collected near Nancagua. Forms the main pasture grass in this region and grows as a weed in the cultivated fields.

61411 and 61412.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61411. *CRYPISIS ACULEATA* (L.) Ait. Poaceæ. Grass.

A spreading annual grass, native to the Mediterranean region.

61412. *DELPHINIUM RUGULOSUM* Boiss. Ranunculaceæ. Larkspur.

An annual plant, described by Boissier (*Flora Orientalis*) as being 4 to 5 inches high, often with several stems, and with grayish blue flowers.

61413 and 61414. *PASPALUM DISTICHUM* L. Poaceæ. Grass.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

61413. March 31, 1924. This grass, similar to carpet grass, is found around irrigating ditches and roadways and in vineyards near Mendoza. (Westover.)

61414. April 5, 1924. Collected at Sucre. This grass, highly relished for pasture, is common along the roads and in closely grazed pastures. (Westover.)

61415 to 61419.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61415. *ECHINOCHLOA CRUSGALLI* (L.) Beauv. Poaceæ. Barnyard grass.

Introduced for testing by forage-plant specialists.

61416. *ELYMUS ARALENSIS* Regel. Poaceæ. Grass.

A tall, erect, perennial grass, native to Siberia.

61417. *ELYMUS GIGANTEUS* Vahl. Poaceæ. Grass.

A tall, erect, perennial grass, native to Siberia.

61418. *EPHEDRA DISTACHYA* L. Gnetales.

A low, decumbent shrub with pale or bluish green stems and scarlet, berrylike fruits. Native to southern Europe and western Asia.

61419. *ERAGROSTIS MINOR* Host. Poaceæ. Grass.

An annual, much-branched grass, with jointed, ascending stems up to a foot and a half long. Widely distributed throughout the North Temperate Zone.

61420. *PASPALUM DISTICHUM* L. Poaceæ. Grass.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

June 7, 1924. Seeds presented by Enrique Matte, Buin. (Westover.)

61421. *EVERSMANNIA SUBSPINOSA* (Fisch.) B. Fedtsch. Fabaceæ.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A shrubby, slightly spiny plant, native to arid regions in southeastern Russia.

61422. *PHALARIS BULBOSA* Jusl. Poaceæ.

From Buenos Aires, Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

April 8, 1924. Obtained from the Bridger brothers. (Westover.)

61423 to 61427.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61423. *FRITILLARIA KARELINI* (Fisch.) Baker. Liliaceæ.

A dwarf, compact species, which, according to Boissier (*Flora Orientalis*), has lilac flowers produced in 3 to 12 flowered racemes.

61424 to 61427. *GLYCYRRHIZA* spp. Fabaceæ. Licorice.

61424. *GLYCYRRHIZA ASPERA* Pall.

A perennial plant with ascending stems and purplish flowers; found native in semiarid regions of southern Siberia.

61425. *GLYCYRRHIZA GLABRA* L.

A perennial, somewhat woody plant, with thick, subterranean runners and stout, upright stems sometimes 3 feet high. Native to southern Europe and Turkestan.

61426. *GLYCYRRHIZA TRIPHYLLA* Fisch. and Mey.

An erect, perennial plant, 1 to 2 feet high, with pinkish white flowers. Native to Siberia.

61427. *GLYCYRRHIZA URALENSIS* Fisch.

An erect perennial plant with hairy stems; native to the Ural Mountains, Siberia. Introduced for testing as forage.

61428. *POLYPOGON CRINITUS* Trin. Poaceæ. Grass.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

Boros. May 24, 1924. (Westover.)

61429. *HELEOCHLOA SCHOENOIDES* (L.) Host. Poaceæ. Grass.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A low, perennial, spreading grass with dense, spikelike panicles. Native to the Mediterranean region.

61430 to 61432. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

These wheats, procured from a seedsman in Chile, are said to be the three varieties most commonly grown. (Westover.)

61430. Blanco wheat.

61431. Egypto wheat.

61432. Florence wheat.

61433. LIMONIUM OTOLEPIS (Schrenk) Kuntze (*Statice otolepis* Schrenk). Plumbaginaceæ. Sea lavender.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A perennial plant, native to Turkestan, with small, narrowly ovate leaves and short spikes of white flowers.

61434 and 61435.

From South America. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61434. SOLANUM MURICATUM Ait. Solanaceæ. Pepino.

Ovalle, Chile. June 1, 1924. One sees large acreages of this plant in the small irrigated valleys of northern Chile. The fruits, highly prized among the natives, are very sweet and juicy and rather palatable. They are sold everywhere in the markets, and the natives even flock around all the trains in an effort to sell them.

61435. SORGHASTRUM sp. Poaceæ. Grass.

April 8, 1924. These seeds, said to have come originally from Brazil, were purchased in a store in Buenos Aires under the name of Yaragua. They are especially suited to wet lands.

61436 to 61438.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61436. MEDICAGO SATIVA L. Fabaceæ. Alfalfa.

Introduced for cultural and comparison tests.

61437. MELILOTUS ALBA Desr. Fabaceæ. White sweet clover.

Introduced for testing by forage-crop specialists.

61438. PEGANUM HARMALA L. Zygophyllaceæ.

An erect, strong-scented, shrubby plant, 2 to 3 feet high, with irregularly cut leaves and terminal, white flowers. Native to the Mediterranean region.

61439 and 61440.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

61439. SPOROBOLUS SUBINCLUSUS Phil. Poaceæ. Grass.

March 30, 1924. This grass is abundant in the pastures around Lupan de Cuyo, Mendoza, but is apparently not relished by cattle. (Westover.)

61440. STENOTAPHRUM SECUNDATUM (Walt.) Kuntze. Poaceæ. Grass.

April 8, 1924. Collected southeast of Buenos Aires, where it is highly esteemed as a pasture grass. (Westover.)

61441. POLYPOGON MARITIMUS Willd. Poaceæ. Grass.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A low, annual grass, with laxly ascending stems not over a foot in length. Native to the Mediterranean region.

61442 and 61443.

From South America. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924. Notes by Mr. Westover.

61442. STIPA PAPPOSA Nees. Poaceæ. Grass.

April 5, 1924. Collected near Sucre, Argentina. This grass is apparently not relished by cattle so long as other grasses are available.

61443. VICIA sp. Fabaceæ. Vetch. Placilla, Chile. May 24, 1924.

61444. SPHAEROPHYSA SALSULA (Pall.) DC. Fabaceæ.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

A perennial herbaceous plant, native to Turkestan, with erect stems and racemes of purplish flowers.

61445. ZEA MAYS L. Poaceæ. Corn.

From Chile. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received July 14, 1924.

Hacienda El Tambo, Mallao. May, 1924. (Westover.)

61446 and 61447.

From Omsk, Russia. Seeds presented by Prof. K. Murashinsky, Siberian Agricultural Academy. Received June 24, 1924.

61446. TRIGONELLA ARCUATA Meyer. Fabaceæ.

An annual leguminous plant found native in dry situations in Asia Minor.

61447. TULIPA BORSZCZOWI Regel. Liliaceæ. Tulip.

A Russian tulip with stems 12 to 18 inches high, bluish green, narrowly ovate leaves up to 6 inches in length, and red flowers with black blotches at the base of the petals.

61448 to 61477. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceæ. Sorghum.

From Khartum, Anglo-Egyptian Sudan. Seeds presented by the Government Experiment Farm, through H. V. Harlan, Bureau of Plant Industry. Received August 25, 1924.

61448. Abu Carakish.

61449. Abu Khimmer.

61450. Abu Shanab No. 9.

61451. Ahamar No. 21.

61452. Beid-el-Chor.

61453. Dura Abiad No. 1.

61454. Dwarf Feterita No. 811.

61455. Dwarf Hegari.

61456. Dwarf Milo No. 1933.

61457. El Hacherag.

61458. Feterita.

61459. Feterita No. 25.

61460. Gassabi.

61461. Hegeiri.

61448 to 61477—Continued.

61462. *Hemesi*.
 61463. *Higiri* No. 6.
 61464. *Kalm Ahmer*.
 61465. *Khamis Wad Gah*.
 61466. *Korgi* No. 1.
 61467. *Milo kaoliang* (hybrid) No. 1473.
 61468. *Mogd Wad Fadl*.
 61469. *Mugeed*.
 61470. *Neili Neili* No. 7.
 61471. *Safra Bahr-el-Abiad*.
 61472. *Safra el Dahara*.
 61473. *Shal Shalih* No. 4.
 61474. *Shallouft el Naga*.
 61475. *Shikori* No. 2.
 61476. *Um Gorirrat*.
 61477. *Waga*.

61478 to 61505.

From Amani, Tanganyika Territory, Africa.
 Seeds presented by Alleyne Leechman,
 Director, Biological and Agricultural In-
 stitute. Received August 27, 1924.

61478. *ADENANTHERA MICROSPERMA* Teijsm.
 and Binn. Mimosaceæ.

No. 12. An East Indian tree, resembling the mimosas in general appearance; it is occasionally planted in eastern Java as a shade tree, according to C. A. Backer (*Schoolflora voor Java*).

- 61479 to 61481. *ALBIZZIA* spp. Mimosaceæ.

61479. *ALBIZZIA ADIANTHIFOLIA*
 (Schum.) W. F. Wight (*A. fastigi-
 ata* E. Mey.).

No. 16. This tropical African species, like many others of the genus, is a large, handsome tree of spreading habit, which is suitable as a shade tree in tropical or perhaps subtropical regions.

For previous introduction see S. P. I. No. 49288.

61480. *ALBIZZIA CHINENSIS* (Osbeck)
 Merr. (*A. stipulata* Boiv.).

No. 20. A large, rapid-growing tree, native to the subtropical regions of eastern India. It is said by Watt (*Dictionary of Economic Products of India*) to have been found very satisfactory in Assam as a shade tree for tea. The roots do not penetrate the soil deeply, and the foliage does not make a dense shade.

For previous introduction see S. P. I. No. 51143.

61481. *CASSIA SIAMEA* Lam. Cæsalpin-
 iaceæ.

No. 19. The kassod tree is described by J. F. Rock (*Ornamental Trees of Hawaii*, p. 99) as being rather low, with twiggy branches and bluish leaves up to a foot in length. In the late summer and early fall, when all other showy leguminous trees have ceased to bloom, this tree bears axillary and terminal panicles of attractive bright-yellow flowers. In Honolulu it has been planted more or less extensively in private grounds. The native home of the kassod tree is southern India and Malaysia.

For previous introduction see S. P. I. No. 54924.

61478 to 61505—Continued.

61482. *BERRIA AMMONILLA* Roxb. Tili-
 aceæ.

No. 47. "Trincomali wood" is the name under which the very hard, durable, dark-red wood of this Indian tree is exported, according to Watt (*Dictionary of the Economic Products of India*). The wood is used for making agricultural implements and for other purposes where toughness and hardness are desired. The tree is large, with long-stemmed, heart-shaped leaves and dense racemes of small, white flowers. Its distribution includes the Malay Archipelago and the Philippines.

61483. *CASTILLA ELASTICA* Cerv. Moraceæ.
 Rubber tree.

No. 75. Seeds of this tropical American rubber tree have been obtained for the use of department rubber specialists.

For previous introduction see S. P. I. No. 42363.

61484. *CASUARINA DISTYLA* Vent. Casuari-
 naceæ.

No. 76. Unlike many of the better-known casuarinas, this species is usually a small shrub 2 to 3 feet high. It is common in Tasmania and in parts of southern Australia.

61485. *COFFEA BUKOBENSIS* Zimmerm. Ru-
 biaceæ. Coffee.

No. 104. The coffee grown in the vicinity of Bukoba, Tanganyika Territory, was formerly supposed to be a variety of *Coffea arabica*, but Zimmermann (*Der Pflanze*, vol. 4) maintains that it is a separate species and has named it *C. bukobensis*. The differences are in the venation of the leaves and flower structure, and culturally this species is very similar to *C. arabica*.

61486. *COFFEA QUILLOU* P. J. S. Cramer.
 Rubiaceæ. Coffee.

No. 108. Introduced for cultural and comparison tests in tropical America.

Introduced into the East Indies from Libreville, French Congo; in 1901 this was found to be distinct from *Coffea robusta*. The leaves are narrower and brighter green and the young trees are pyramidal in habit. The berries are bright red, not dark crimson, and oblong. The crop matures later than *C. robusta* and under favorable circumstances is larger than that of any other coffee. Under less favorable conditions *C. robusta* is more productive. (Note taken from *Tea and Coffee Trade Journal*, vol. 35, p. 417.)

- 61487 and 61488. *CRYPTOMERIA JAPONICA*
 (L. f.) D. Don. Pinaceæ.

61487. No. 119. Var. *araucarioides*.
 "A variety of pyramidal habit resembling *Araucaria excelsa*." (Alfred Rehder, *Arnold Arboretum*.)

61488. No. 120. Var. *glabra*. A gla-
 brous variety.

61489. *CUPRESSUS FUNEBRIS* Endl. Pina-
 ceæ. Mourning cypress.

No. 123. Var. *glauca*. A glaucous variety of the mourning cypress (*Cupressus funebris*); the typical form is a wide-spreading, pendulous, Chinese species.

61478 to 61505—Continued.

61490. *FICUS CHLAMYDODORA* Warb. Moraceæ.

No. 171. A stately tree grown largely as a shade tree in parts of tropical Africa because of the handsome foliage and brick-red branches. According to Holland (Useful Plants of Nigeria), twice a year it bears abundant crops of peach-colored figs, which are fairly sweet and juicy.

61491. *FUNTUMIA ELASTICA* (Preuss) Stapf. Apocynaceæ. Lagos rubber tree.

No. 177. A large forest tree which is very widely distributed throughout central Africa and is the source of Lagos rubber, which is of excellent quality. It is being introduced with a view of including it in the collection of rubber plants now being brought together in southern Florida for investigational purposes.

For previous introduction see S. P. I. No. 58963.

61492. *LANDOLPHIA KIRKII* Dyer. Apocynaceæ.

No. 205. A number of native climbing plants are used in East Africa as sources of native rubber, and this shrubby vine is one of the most important, according to Thiselton-Dyer (Flora of Tropical Africa). It has thin, tough leaves, loose clusters of whitish flowers, and roundish fruits 1 to 3 inches in diameter.

For previous introduction see S. P. I. No. 52583.

61493. *LANDOLPHIA STOLZII* Busse. Apocynaceæ.

No. 206. A number of Landolphas are being introduced from tropical Africa for testing by department rubber specialists. This one is described by Thiselton-Dyer (Flora of Tropical Africa) as a climbing shrub with small, oval leaves, dense clusters of white, sweet-scented flowers, and fruits resembling small oranges.

61494. *LILIUM REGALE* Wilson. Liliaceæ. Royal lily.

No. 210. Seeds of the royal lily as grown in Africa, introduced for the use of lily breeders.

61495. *LINOMA ALBA* (Bory) O. F. Cook. Phœnicaceæ.

No. 8. A slender, spineless, pinnate-leaved palm resembling *Areca* in habit, 30 feet or more in height, and native to tropical Asia. The leaves of the mature plant are 8 to 12 feet long. When young this makes a very desirable house palm.

For previous introduction see S. P. I. No. 43583.

61496 and 61497. *MANIHOT GLAZIOVII* Muell. Arg. Euphorbiaceæ.

Ceara rubber.

Ceara rubber, obtained from this tree, is one of the important rubbers of commerce. These seeds are introduced for testing by rubber specialists.

For previous introduction see S. P. I. No. 46809.

61496. No. 217.

61497. No. 216. Received as *Manihot dichotoma*, but the seeds are not of that species.

61478 to 61505—Continued.

61498. *MASCARENHASIA ELASTICA* Schum. Apocynaceæ.

No. 220. A shrubby tropical African tree, 20 to 30 feet high, which furnishes rubber said to be of about the same quality as that from *Landolphina kirkii*. Introduced for testing by rubber specialists.

61499. *MONODORA MYRISTICA* (Gaertn.) Dunal. Annonaceæ. Calabash nutmeg.

No. 225. The calabash nutmeg is described in Curtis's Botanical Magazine (pl. 3059) as a large, spreading, tropical African tree, with shining, pale-green leaves, and fragrant flowers. The latter, borne singly in the leaf axils, are about 6 inches across, with six petals; three of these are spreading and yellow, the other three are erect and creamy white, and all are dotted with red. The fruit, 4 to 6 inches in diameter, contains a number of cylindric seeds about an inch long; these have a flavor resembling closely that of the common nutmeg.

For previous introduction see S. P. I. No. 47500.

61500. *MUSA TEXTILIS* Nee. Musaceæ. Abaca.

No. 227. Abaca seeds introduced for testing by fiber-plant specialists.

For previous introduction see S. P. I. No. 57696.

61501. *PTYCHOSPERMA* sp. Phœnicaceæ. Palm.

No. 34. Palms of this genus have smooth, ringed trunks, crowned at the summit by a dense cluster of pinnate leaves.

61502. *SCHIZOLOBIUM PARAHYBUM* (Vell.) Blake (*S. excelsum* Vog.). Cæsalpiniaceæ. Bacarabû.

No. 275. A tall leguminous tree, sometimes 120 feet high in Brazil, its native country, with large, handsome, fernlike leaves and large panicles of yellow flowers. It is of possible value as a shade and ornamental tree for the warmest parts of Florida.

For previous introduction see S. P. I. No. 45621.

61503. *SYZYGIIUM OWARIENSE* (Beauv.) Benth. (*Eugenia owariensis* Beauv.). Myrtaceæ.

No. 169. A tropical African tree, 30 to 40 feet high, closely related to the jambolan (*Syzygium jambolana*). The small fruits are eaten by the natives of Nigeria, according to Holland (Useful Plants of Nigeria), and the tree is good for timber.

61504. *TELFAIREA PEDATA* (J. E. Smith) Hook. Cucurbitaceæ.

No. 288. In the eastern sections of tropical Africa the roundish seeds produced by this clinging shrub are boiled and eaten by the natives. The perennial stems become 50 to 100 feet long; the flowers are pale purple, and the oblong fruits, 2 to 3 feet long, contain many seeds. These seeds also yield an abundance of oil which is said to be equal in quality to olive oil, according to an analysis made at the Imperial Institute, London.

For previous introduction see S. P. I. No. 55504.

61478 to 61505—Continued.

61505. TERMINALIA BELLERICA (Gaertn.) Roxb. Combretaceæ.

No. 291. The small, round fruits of this handsome tropical Indian tree have been exported from India for tanning purposes under the name of myrobalans. The yellowish gray wood is used for general construction. The tree also has merit as a shade tree for avenues, with its huge buttressed trunk and long horizontal branches.

For previous introduction see S. P. I. No. 59686.

61506 to 61592. *HORDEUM* spp. Poaceæ.

From Leningrad, Russia. Seeds presented by Prof. N. I. Vavilov, Director, Bureau of Applied Botany and Plant Breeding. Received July 11, 1924. Notes by Professor Vavilov.

61506. HORDEUM DISTICHON NUDUM L. Two-rowed barley. No. 3773.

61507 to 61510. HORDEUM DISTICHON PALMELLA Harlan. Two-rowed barley. Pure-line varieties.

61507. No. 0114. Province of Tiflis.

61508. No. 0149. Province of Kutais.

61509. No. 0110. Province of Erivan.

61510. No. 0624. Province of Erivan.

61511 to 61568. HORDEUM VULGARE COELESTE L. Six-rowed barley.

From Mongolia.

61511. No. 3878. **61520.** No. 3927.

61512. No. 3880. **61521.** No. 3929.

61513. No. 3886. **61522.** No. 3942.

61514. No. 3887. **61523.** No. 3998.

61515. No. 4242. **61524.** No. 4020.

61516. No. 3904. **61525.** No. 4023.

61517. No. 3912. **61526.** No. 4024.

61518. No. 3922. **61527.** No. 4026.

61519. No. 3923. **61528.** No. 4028.

61529 to 61559. Subvariety *himalayense*.

61529. No. 3939. **61545.** No. 4035.

61530. No. 3938. **61546.** No. 4037.

61531. No. 3945. **61547.** No. 4038.

61532. No. 3985. **61548.** No. 4039.

61533. No. 3995. **61549.** No. 4040.

61534. No. 3997. **61550.** No. 4041.

61535. No. 4001. **61551.** No. 4042.

61536. No. 4007. **61552.** No. 4043.

61537. No. 4008. **61553.** No. 4060.

61538. No. 4017. **61554.** No. 4061.

61539. No. 4019. **61555.** No. 4062.

61540. No. 4029. **61556.** No. 4068.

61541. No. 4030. **61557.** No. 4071.

61542. No. 4031. **61558.** No. 4074.

61543. No. 4032. **61559.** No. 4075.

61544. No. 4034.

61560 to 61568. Subvariety *violaceum*.

61506 to 61592—Continued.

61560. No. 3885. **61565.** No. 3921.

61561. No. 3917. **61566.** No. 3927.

61562. No. 3918. **61567.** No. 4000.

61563. No. 3919. **61568.** No. 4082.

61564. No. 3920.

61569. HORDEUM VULGARE NIGRUM (Willd.) Beaven. Six-rowed barley.

No. 017. Province of Don. A pure-line variety.

61570 to 61592. HORDEUM VULGARE PAL-LIDUM Seringe. Six-rowed barley.

61570 to 61574. Pure-line varieties.

61570. No. 099. Province of Erivan.

61571. No. 0210. Province of Tiflis.

61572. No. 0315. Province of Tiflis.

61573. No. 0303. Province of Vol-goda.

61574. No. 0304. Province of Vo-logda.

61575. No. 2789. Province of Arch-angel.

61576 to 61591. From Mongolia.

61576. No. 3926. **61584.** No. 4064.

61577. No. 4044. **61585.** No. 4065.

61578. No. 4147. **61586.** No. 4069.

61579. No. 4052. **61587.** No. 4070.

61580. No. 4053. **61588.** No. 4073.

61581. No. 4055. **61589.** No. 4077.

61582. No. 4059. **61590.** No. 4079.

61583. No. 4063. **61591.** No. 4088.

61592. Subvariety *rikotense*.

No. 0621. Province of Elizabetpol.

61593 and 61594.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received September 4, 1924.

61593. ACACIA CATECHU (L. f.) Willd. Mi-mosaceæ.

The pale-yellow gum obtained from this acacia has very strong adhesive powers and is considered a better substitute for gum arabic than that from *Acacia arabica*, according to Watt (Dictionary of the Economic Products of India). The tree is found wild in parts of India and Burma, where it sometimes becomes 70 feet high, though usually smaller. The leaves are very finely pinnate, and the white or pale-yellow flowers are in spikes.

For previous introduction see S. P. I. No. 55420.

61594. ALBIZZIA PROCERA (Roxb.) Benth. Mimosaceæ.

A tall, handsome, tropical tree, often 60 to 80 feet high, with yellowish or greenish white bark, large compound leaves, and terminal panicles of yellowish white flowers. In Burma, Bengal, and southern India, where the tree is native, the brown heartwood is used for making agricultural implements.

For previous introduction see S. P. I. No. 47832.

61595. XANTHOSOMA VIOLACEUM Schott.
Araceae. Yautia.

From La Providencia, Chiapas, Mexico.
Corms presented by Dr. C. A. Purpus.
Received September 12, 1924.

A very handsome Mexican plant, related to the elephant-ear. The leaves are dark bluish green with very dark stems.

For previous introduction see S. P. I. No. 61387.

61596 to 61625.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received September 4, 1924.

61596. BISCHOFIA TRIFOLIATA (Roxb.) Hook. (*B. javanica* Blume). Euphorbiaceae.

A tropical, deciduous tree which is sometimes called "red cedar" in northeastern India, because of the reddish color of the wood, which is used for general construction. The dense, oval crown and deep-green foliage make the tree very handsome.

For previous introduction see S. P. I. No. 51194.

61597. BOEHMERIA MACROPHYLLA D. Don. Urticaceae.

According to Watt (Dictionary of the Economic Products of India) this is a broad-leaved shrub, native to northeastern India at an altitude of about 4,000 feet. The bark yields a fiber much prized by the natives of India for making fish nets.

61598. BUCKLANDIA POPULNEA R. Br. Hamamelidaceae.

J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry, who has collected this species in southwestern Yunnan, not far from the border of India, describes it as a tall, straight tree, 60 to 80 feet high, of handsome appearance, and growing in that region at an altitude of 6,000 feet. The broadly triangular leaves are dark green, and the yellow male flowers are in globose heads.

For previous introduction see S. P. I. No. 56637.

61599. CHONEMORPHA MACROPHYLLA (Roxb.) Don. Apocynaceae.

A large climber, native to Bengal and Burma, with milky sap from which a kind of caoutchouc is obtained.

For previous introduction see S. P. I. No. 57886.

61600. CLERODENDRUM COLEBROOKIANUM Walp. Verbenaceae.

A low shrub, 4 to 8 feet high, which, according to Hooker (Flora of British India), has rosy purple or whitish flowers about an inch long, and small blue fruits about a third of an inch in diameter. It is native to Sikkim and Assam, India, at rather low altitudes, and will therefore probably not endure much cold.

61601. DALBERGIA SERICEA G. Don. Fabaceae.

The branches and leaves of this small leguminous tree are covered with reddish brown hairs, and the young leaflets are clothed with silky down. The pale-lilac flowers are in short, compact, axillary clusters.

61596 to 61625—Continued.**61602. DUABANGA SONNERATIOIDES** Buch-Ham. Lythraceae.

A tall, deciduous tree from subtropical regions in northeastern India; the light-brown bark peels off in thin flakes. The gray, soft, yellow-streaked wood, according to Watt (Dictionary of the Economic Products of India), is used extensively in Bengal and Assam for making tea boxes, as it seasons well, takes a good polish, and does not warp.

61603. ELAEOCARPUS SIKKIMENSIS Masters. Elaeocarpaceae.

A handsome, evergreen tree, native to Sikkim, India, with erect racemes of small, white flowers. The sharp-pointed, serrate leaves are about 8 inches long.

61604. ENGELHARDTIA SPICATA Leschen. Juglandaceae.

This Himalayan relative of the walnut is a large, handsome tree, with thick brown bark which contains a large percentage of tannin. The wood shows a beautiful grain and is said not to warp.

61605. GYNOCARDIA ODORATA R. Br. Flacourtiaceae.

This tree, one of the most common in the Chittagong Hills, was long considered to be the true source of chaulmoogra oil, which is now known to be *Taraktogenos kurzii*. The seeds of the former species contain neither chaulmoogric nor hydnocarpic acids, according to J. F. Rock (Bulletin 1057, United States Department of Agriculture). The tree is tall and handsome, with dark-green foliage and pendent branches, and may prove of value as a shade tree for the warmest parts of the United States.

For previous introduction see S. P. I. No. 53121.

61606. HIPTAGE BENGHALENSIS (L.) Kurz (*H. madablota* Guertn.). Malpighiaceae.

A tall, shrubby climber which is found wild throughout India in ravines and moist places. The thick, smooth leaves are 4 to 6 inches long, and the showy, fragrant flowers, with silky white, fringed petals, are in axillary racemes.

61607. HOLARRHENA ANTIDYSENTERICA (Roth) Wall. Apocynaceae.

An attractive, white-flowered little tree found native throughout India. The soft, white wood is largely used, in India, for carved furniture, and the astringent bark is employed medicinally as an antidiysenteric and anthelmintic, according to Watt (Dictionary of the Economic Products of India).

For previous introduction see S. P. I. No. 53579.

61608. LAGERSTROEMIA PARVIFLORA Roxb. Lythraceae.

A tropical timber tree, native to India, closely related to the well-known crape myrtle (*L. indica*). According to Brandis (Forest Flora of India) the white fragrant flowers, half an inch across, are in terminal or axillary panicles, and the wood is tough, elastic, and durable.

For previous introduction see S. P. I. No. 53582.

61596 to 61625—Continued.

61609. *LEUCOSCEPTRUM CANUM* J. E. Smith. *Menthaceæ*.

A stout-branched, densely hairy tree, commonly about 30 feet high, with large narrowly ovate leaves, silvery hairy beneath and at times a foot long. The small white or pinkish flowers are in spikes. Native to temperate regions of the Himalayas.

For previous introduction see S. P. I. No. 57888.

61610. *LEYCESTERIA BELLIANA* W. W. Smith. *Caprifoliaceæ*.

A small, graceful shrub with opposite, membranous, lance-shaped leaves, and sessile, 2 to 4 flowered spikes of rosy white flowers. It is native in the Sikkim Himalayas near the Nepal border at an altitude of 10,000 feet.

For previous introduction see S. P. I. No. 55686.

61611. *LEYCESTERIA GLAUCOPHYLLA* (Hook. f. and Thoms.) C. B. Clarke. *Caprifoliaceæ*.

A slender plant, closely allied to the honeysuckle, with pale-green leaves and bearing, in the early winter, a profusion of pink flowers, in short axillary spikes. It is native to the subtropical Himalayas at an altitude of 5,000 feet.

For previous introduction see S. P. I. No. 55907.

61612. *MEIBOMIA CEPHALOTES* (Roxb.) Kuntze (*Desmodium cephalotes* Wall.). *Fabaceæ*.

A tall shrub, with densely silky, acutely angled, zigzag branches and dense umbels of deep-red flowers. It is native to the eastern Himalayas. Cattle and goats are said to be fond of the leaves, according to Watt (*Dictionary of the Economic Products of India*).

61613. *MEIBOMIA GYROIDES* (DC.) Kuntze (*Desmodium gyroides* DC.). *Fabaceæ*.

A shrubby leguminous plant, 8 to 10 feet high, from the warmer parts of the central and eastern Himalayas. It has hairy leaves and terminal clusters of red flowers.

61614. *MORUS LAEVIGATA* Wall. *Moraceæ*.
Mulberry.

An Indian mulberry which occurs wild and cultivated, though not common, in the lower Himalayas, where, according to Atkinson (*Notes on the Economic Products of the Northwest Provinces*), it forms a medium-sized tree with oval leaves up to 7 inches in length. In early spring the long-cylindrical, yellowish white or pale-purple fruits appear; these are edible, although of a rather insipid-sweet flavor.

For previous introduction see S. P. I. No. 55692.

61615. *MUCUNA MACROCARPA* Wall. *Fabaceæ*.

A woody climber, native to northeastern India, which is described by Hooker (*Flora of British India*) as having purple flowers and torulose pods over a foot in length.

61596 to 61625—Continued.

61616. *PICEA MORINDOIDES* Rehder. *Pinaceæ*.
Spruce.

A Himalayan spruce of spreading habit, with slender pendulous branchlets. It becomes over 200 feet tall. The young cones are purple, turning to a pale brown when mature.

For previous introduction see S. P. I. No. 58912.

61617. *PIPER ATTENUATUM* Buch.-Ham. *Piperaceæ*.

A woody, rambling, tropical plant, native to the warmer parts of the eastern Himalayas. According to Hooker (*Flora of British India*) the female spikes are very slender, lengthening in fruit to about 9 inches. The long-stemmed leaves are roundish, with hairy lower surfaces.

61618. *PORANA RACEMOSA* Roxb. *Convolvulaceæ*.
Snow creeper.

One of the most beautiful of the Himalayan plants, described by Watt (*Dictionary of the Economic Products of India*) as occurring in dense masses, climbing over other plants in the jungle, with the dazzling white flowers resembling patches of snow.

61619. *PRUNUS CERASOIDES* D. Don. (*P. puddum* Roxb.). *Amygdalaceæ*.

The pendulous flowers are campanulate and deep rosy red. They are said to appear before the foliage, which is a bright, glossy green. The tree, native to the highlands of Burma, is said to endure some frost in its native country. (*Colingwood Ingram, Benenden, Kent, England, in note under S. P. I. No. 57680.*)

61620. *PYGMEUM ACUMINATUM* Colebr. *Amygdalaceæ*.

A tropical relative of the peach, native to Bengal, and described by Hooker as an evergreen tree with narrow oblong leaves, racemes of yellow-green flowers, and dark-purple fruits about an inch in diameter.

For previous introduction see S. P. I. No. 50721.

61621. *QUERCUS INCANA* Roxb. *Fagaceæ*.
Oak.

A large, evergreen oak from the mountains of eastern India, with bark rich in tannin and acorns which are eaten by the wild animals of the Himalayas.

For previous introduction see S. P. I. No. 50722.

61622. *RUBUS NIVEUS* Thunb. *Rosaceæ*.

A subtropical *Rubus*, distributed throughout the temperate Himalayas, Burma, Ceylon, and Java. The berries, which vary in color from red and orange to bluish, are very palatable and are commonly sold to Europeans in the bazaars of British India. Introduced for horticulturists experimenting with small fruits.

61623. *SENECIO SCANDENS* Buch.-Ham. *Asteraceæ*.
Climbing groundsel.

An attractive, autumn-flowering composite from the Himalayas, with a woody stem and climbing habit. The yellow flowers are in few-flowered loose panicle-like clusters. Because of its rustic beauty and its habit of flowering in October, this plant is a very desirable ornamental.

61596 to 61625—Continued.

61624. *TERMINALIA TOMENTOSA* (Roxb.)
Wight and Arn. Combretaceæ.

The tropical almond (*Terminalia catappa*) is one of the most popular trees in southern Florida, where it is extensively planted as an ornamental shade tree. This closely related Asiatic species, found in many parts of India, is described by Brandis (Forest Flora of India) as a large tree, 80 to 100 feet tall, with hard, leathery leaves 5 to 9 inches long and erect, terminal racemes of dull-yellow flowers. The tree appears to thrive best in India in heavy, binding soils. The dark-brown wood is valued in India for general construction purposes.

For previous introduction see S. P. I. No. 53589.

61625. *THYSANOLAENA MAXIMA* (Roxb.)
Kuntze. Poaceæ. Grass.

An ornamental, tropical grass, 8 to 10 feet high, which grows wild in the mountainous regions of northern India. The great masses of steel-gray inflorescences give the huge clumps a handsome appearance during about four months of the year.

61626 to 61632.

From Panama. Seeds collected by David Fairchild, Bureau of Plant Industry. Received August 23, 1924.

61626. *CHAMAEDOREA* sp. Phœnicaceæ.
Palm.

Several of the palms of this genus are attractive ornamentals. This one is said by Doctor Fairchild to be slender and of graceful habit.

61627. *ELAEIS MELANOCOCCA* Gaertn. Phœnicaceæ.
Palm.

A wide-spreading, low palm which grows in damp situations. It is closely related to the African oil palm (*Elaeis guineensis*), and a clear oil is extracted from the kernels in small quantities by the natives, who prize it highly for cooking.

For previous introduction see S. P. I. No. 57801.

61628. *INGA RUFESCENS* Benth. Mimosa-
ceæ.

A tropical tree with acacialike foliage and small heads of white flowers with showy red stamens. Native to Panama.

61629. *MANICARIA SACCIFERA* Gaertn.
Phœnicaceæ. Palm.

Unlike most palms, this Brazilian species has entire leaves, which become about 30 feet in length and 5 feet in width. The trunk is erect, ringed, and unarmed, and 15 to 20 feet high. The natives of Brazil use the immense leaves of this palm for thatching their huts and also for making a coarse cloth.

For previous introduction see S. P. I. No. 45087.

61630. *PRIORIA COPAIFERA* Griseb. Cæsal-
piniaceæ.

A large, handsome tree, native to central and northern South America, which yields a resin known commercially as balsam of copaiba, according to Pittier (*Plantas Usuales de Costa Rica*).

For previous introduction see S. P. I. No. 47998.

61626 to 61632—Continued.

61631. *RHEEDIA LATERIFLORA* L. Clusiaceæ.

The "hatstand tree" is a small tree, about 10 feet high, common in the woods of the island of Trinidad. It is noted for the regularity of its branching, and is frequently cut, fastened in a heavy base, and used as a hatstand.

For previous introduction see S. P. I. No. 45604.

61632. *STERCULIA* sp. Sterculiaceæ.

A number of sterculias are attractive shade trees, adapted for growing in the warmer parts of the United States. This one, sent in from Panama, will be grown for its possible ornamental value.

61633. *ORYZA SATIVA* L. Poaceæ. Rice.

From Manila, Philippine Islands. Seeds presented by H. E. Fernandez. Received September 15, 1924.

Introduced for rice-breeding experiments.

61634 to 61695.

From Union of South Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received August, 1924. Notes by Doctor Shantz.

61634. *AESCHYNOMENE ELAPHROXYLON*
(Guill. and Perr.) Taub. (*Hermintera elaphroxylon* Guill. and Perr.). Fa-
baceæ. Ambash.

No. 240a. Lake Nyasa. April 22, 1924. Ambash forms the principal tree in the marshy lands and papyrus swamps about the central African lakes and is abundant in the upper Nile region. The plant has light foliage similar to that of the ordinary acacia, but differs in having very large pealike, orange-yellow flowers. It forms at times a trunk 10 inches in diameter, and the wood is exceedingly light, a log 10 feet long weighing only a few pounds. Along the upper Nile it is used extensively in making rafts and huts, and should be valuable in a great many ways.

61635. *ALOE ZEBRINA* Baker. Liliaceæ.

No. 416. Near Nyamandslova, Southern Rhodesia. June 12, 1924. An aloe, grown on swamp land, which blooms during the drought period. The very showy flower spike rises from a relatively small rosette.

61636. *ANTHOSCHMIDTIA* sp. Poaceæ.
Grass.

No. 245. April 23, 1924. Mixed grass seed from Monkey Bay, Nyasaland. All are sand grasses, grown in a relatively arid country.

61637. *ARISTIDA* sp. Poaceæ. Grass.

No. 381. Bembezi, Southern Rhodesia. June 10, 1924. Native grass used for hay.

61638. *ASPARAGUS* sp. Convallariaceæ.

No. 344. Blantyre. May 21, 1924. An ornamental asparagus.

61639. *BABIANA* sp. Iridaceæ.

No. 442. Bathoen, Bechuanaland. June 16, 1924. From semiarid grasslands. Attractive iridaceous flowers. The corms are eaten by baboons.

61634 to 61695—Continued.

61640. CITRULLUS VULGARIS Schrad. Cucurbitaceæ. Watermelon.

No. 409. Tjolotjo, Southern Rhodesia. June 12, 1924. Tsama melon, found growing under native conditions, furnishes water for travelers and wild game in the Kalahari Desert. It maintains itself in a wild state. Every effort should be made to establish this plant in the Southwest, where it would increase the value of the native range. It might also do well at the edge of the large sand-dune areas in California, Arizona, and New Mexico.

61641. CLEMATIS sp. Ranunculaceæ.

No. 334. Portuguese East Africa, between M'Khome and Zomba. May 12, 1924. An herbaceous clematis, with greenish white flowers and white fruit clusters, which grows about 3 feet high, probably from a perennial root. Abundant in grasslands which are burned over each year at the end of the dry season.

61642. COMBRETUM PRIMIGENUM Marloth. Combretaceæ.

No. 406. Tjolotjo, Southern Rhodesia. June 11, 1924. A fine ornamental tree for a semiarid country. The wood is also valuable.

61643. COPAIVA COLEOSPERMA (Benth.) Kuntze (*Copaifera coleosperma* Benth.). Cæsalpiniaceæ.

No. 417. Victoria Falls, Southern Rhodesia. June 13, 1924. A beautiful, evergreen tree of excellent form and foliage, reaching a height of 60 feet. The wood is especially valuable and is known as bastard teak or occasionally known as Rhodesia teak. The native names are *um-tshibi* and *m'sibi* (or *m'zoule*).

For previous introduction see S. P. I. No. 49233.

61644. COPAIVA MOPANE (Kirk) Kuntze. Cæsalpiniaceæ.

No. 414. Tjolotjo, Southern Rhodesia. June 12, 1924. One of the most valuable timber trees, because of the resistance of the wood to attacks of termites. It grows in a semiarid country, where water may stand over the soil after heavy rains. The leaves are heavily lacquered and deep shiny green. The seeds look very much like the leaves. Native names are *mopani*, *ili pani*, *muvanga*, or *muwani*.

61645. CRACCA sp. Fabaceæ.

No. 341. Between Zomba and Nyasaland. May 13, 1924. A small-podded legume, abundant in the lowlands.

61646. CROTALARIA sp. Fabaceæ.

No. 343. Blantyre, Nyasaland. May 21, 1924. A large-podded Crotalaria.

61647 and 61648. FLACOURTIA INDICA (Burm. f.) Merr. (*F. ramontchi* L'Herit.). Flacourtiaceæ. Ramontchi.

61647. No. 199. April 12, 1924. Fruits small like red-fleshed plums but with several seeds. This sample was found in the market at Dar es Salaam.

61648. No. 390. Tjolotjo, Southern Rhodesia. June 11, 1924. A small plum-like fruit, with several seeds. The fruit is very good when eaten out of hand and excellent for making jelly. The tree is very attractive and would make a good ornamental in the semiarid South and West. It could also be used as a hedge plant.

61634 to 61695—Continued.

61649. GLADIOLUS sp. Iridaceæ.

No. 328. Near Didza, Nyasaland. May 12, 1924. A large red mottled variety.

61650. GLADIOLUS sp. Iridaceæ.

No. 347. M'Khome, Nyasaland. May 12, 1924. This is one of the best native types. The plant is tall, and the reddish flowers are of good size.

61651. GREWIA sp. Tiliaceæ.

No. 425. Mochudi, Bechuanaland. June 15, 1924. The so-called "Somali" fruit. It is a small bush growing in a semiarid country.

61652. GREWIA sp. Tiliaceæ.

No. 426. Mochudi, Bechuanaland. June 15, 1924. A small, one-seeded fruit from a semiarid desert tree.

61653 to 61673. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.). Poaceæ. Sorghum.

61653 to 61656. Nos. 235 to 238. Between Blantyre, Nyasaland, and the Zambezi. April 22, 1924. Here the natives grow a very tall form of sorghum with large spreading open heads. It is remarkably uniform in height and shape of inflorescence, but there are differences in color. These four heads represent range in type.

61653. No. 235. 61655. No. 237.

61654. No. 236. 61656. No. 238.

61657 to 61667. Nos. 348 to 358. May 13, 1924. The sorghum grown by the natives in this section is a very tall, open-headed type. I have seen none of the closed-head types in Nyasaland. The following numbers, although similar in size of plant and shape of head, differ in color of seed and hull. They may be accepted as typical of the sorghums grown in this section of Africa.

61657. No. 348. Zomba. Light-red, white-grained type.

61658. No. 349. White hull and seed.

61659. No. 350. Dull-red hull and tan seed.

61660. No. 351. Pink hull and white seed.

61661. No. 352. Deep-red hull and white seed.

61662. No. 353. Similar to No. 352 [S. P. I. No. 61661].

61663. No. 354. This type has a darker hull than that of No. 352 [S. P. I. No. 61661].

61664. No. 355.

61665. No. 356. Very much like No. 352 [S. P. I. No. 61661].

61666. No. 357. Very much like No. 354 [S. P. I. No. 61663].

61667. No. 358. Magenta hull and light seed.

61668 to 61672. Nos. 420 to 424. June, 1924. Types of sorghum grown by the Bakagathala tribe in the semiarid region of Bechuanaland. Sorghum constitutes their principal food.

61634 to 61695—Continued.

61668. No. 420. Mochudi, Bechuanaland. June 15, 1924. Similar to 421 [S. P. I. No. 61669], but known as *Sefoke*.
61669. No. 421. Known as *Noanyanthana*, a good late variety.
61670. No. 422. Typical Mabele, known as *Sekamfokane*.
61671. No. 423. One of the best types, known as *Segaolane*.
61672. No. 424.
61673. No. 460. June, 1924. A sample of the Kafir corn.
61674. *HOLCUS SORGHUM VERTICILLIFLORUS* (Steud.) Hitchc. Poaceæ. **Tabucki grass.**
No. 306. May 8, 1924. Wild sorghum variety, very abundant on lowlands above southern end of Nyasaland, Domira Bay.
61675. *HYPERICOPHYLLUM* sp. Asteraceæ.
No. 262. Livingstonia. April 23, 1924. A beautiful composite with deep, rich-red flowers.
61676. *MANISURIS* sp. Poaceæ. **Grass.**
No. 307. Domira Bay, May 8, 1924. A very tall rank grass abundant on the lowlands about Lake Nyasa, especially on the black cotton soils, where it grows from 6 to 8 feet high and produces a heavy crop of seed.
61677. *ORYZA SATIVA* L. Poaceæ. **Rice.**
No. 201. Beira, Portuguese East Africa. April 20, 1924. A very low-growing, small-seeded variety. Grown at Beira on drier land. It has a peculiar odor and may be valuable.
61678. *PANICUM MADAGASCARIENSE* Spreng. Poaceæ. **Grass.**
No. 202. Beira, Portuguese East Africa. April 20, 1924. A small grass, very attractive and valuable as an ornamental.
61679. *PANICUM* sp. Poaceæ. **Grass.**
No. 388. Tjolotjo. June 11, 1924. One of the grasses which is most successful in the semiarid agriculture of the eastern Kalahari.
61680. *POGONARTHRIA* sp. Poaceæ. **Grass.**
No. 418. Tjolotjo, Southern Rhodesia. June 11, 1924. Mixed grass seed of the type which forms the grass cover on the eastern edge of the Kalahari Desert.
61681. *SESAMUM ANGOLENSE* Welw. Pedaliaceæ.
No. 386. Tjolotjo, Southern Rhodesia. June 11, 1924. This appears to be a smaller flowered type of wild sesame than is found in Central Africa.
61682. *SOLANUM TUBEROSUM* L. Solanaceæ. **Potato.**
No. 293. Livingstonia. April 30, 1924. Brought from Scotland some years ago and grown on the highlands above Nyasaland.
- 61683 and 61684. *SORGHUM VERSICOLOR* Anderss. Poaceæ. **Black Sudan grass.**
61683. No. 239. April 23, 1924. A rather small plant about 3 to 6 feet high, abundant along the road south of Fort Johnston, Nyasaland.

61634 to 61695—Continued.

61684. No. 340. May 13, 1924. A dark-seeded plant resembling Sudan grass, abundant along roadways at the southern end of Lake Nyasa. The heads are dark, drooping gracefully, and the seeds shatter easily.
61685. *SPOROBOLUS* sp. Poaceæ. **Grass.**
No. 208. Beira, April 22, 1924. The golf course at Beira is made up of this grass. When closely clipped it makes a good turf. Most of the golf course is near tidewater level.
61686. *STERCULIA* sp. Sterculiaceæ.
No. 240. Fort Johnston. April 22, 1924. A large white-barked tree with very soft wood. The leaves are somewhat like those of the cotton plant. The pods are large, resembling those of *Asclepias*, but with stinging hairs around the aril, which is bright red. It is sometimes called the "fever" tree and is locally known as N'goza. The seeds are said to be picked to form a powder used as snuff.
61687. *TERMINALIA SERICEA* Burchell. Combretaceæ.
No. 407. Tjolotjo, Southern Rhodesia. June 11, 1924. A well-shaped ornamental tree, suitable for a semiarid country; the yellow wood is of excellent quality and the most valued of any in the region. Bark cloth of poor quality is made from the bark. The tree is known under the native names of *Umangwe*, *M'Susu*, *M'Tarataka*, etc.
61688. *THEMEDA* sp. Poaceæ. **Grass.**
No. 443. Ramanthlava, Bechuanaland. June 16, 1924. Mixed grass seed from the acacia-tall-grass belt, which is probably the most successful grazing region of Africa.
61689. *TRADESCANTIA* sp. Commelinaceæ.
No. 263. Livingstonia. April 27, 1924. A very delicate variety with showy flowers; it should be of value as an ornamental.
- 61690 to 61692. *TRICHOLAENA ROSEA* Nees. Poaceæ. **Natal grass.**
61690. No. 295. April 30, 1924. Mixed grass seed from the hills above Livingstonia.
61691. No. 305. Koto Koto, Nyasaland. May 7, 1924. A rather large type, abundant west of Lake Nyasa on the lowlands.
61692. No. 319. M'Khoma, Nyasaland. May 12, 1924. A grass grown in native sod.
61693. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. **Common wheat.**
No. 294. Livingstonia. April 30, 1924. Wheat grown on the highlands above Nyasaland. It yields fairly well here. Much of the flour used here is produced on the highlands.
- 61694 and 61695. *VIGNA SINENSIS* (Toner) Savi. Fabaceæ. **Cowpea.**
Nos. 389 and 419-b. Tjolotjo, Southern Rhodesia. June 12, 1924. An important crop at the edge of the desert. There are many types grown in the same field. An effort was made to include all types in the sample.
61694. No. 389. 61695. No. 419-b.

61696 to 61725.

From Leningrad, Russia. Seeds presented by Prof. N. I. Vavilov, Director of the Bureau of Applied Botany and Plant Breeding. Received September 24, 1924. Notes by Professor Vavilov.

61696 to 61714. *Gossypium* spp. Malva-
ceae. Cotton.

61696. *Gossypium* sp.

King.

61697. *Gossypium* sp.

61698. *Gossypium* sp.

No. 705.

61699. *Gossypium* sp.

Minus.

61700. *Gossypium* sp.

No. 755.

61701. *Gossypium* sp.

Guzomochonii Bokhara.

61702. *Gossypium* sp.

No. 69. Turkestan Selection Sta-
tion.

61703. *Gossypium* sp.

No. 48.

61704. *Gossypium* sp.

No. 182.

61705. *Gossypium* sp.

No. 182. Turkestan Selection Sta-
tion. Clear rowed.

61706. *Gossypium* sp.

Naviotzkii.

61707. *Gossypium* sp.

No. 48.

61708. *Gossypium* sp.

Fergan.

61709. *Gossypium* sp.

No. 180.

61710. *Gossypium* sp.

No. 750.

61711. *Gossypium* sp.

No. T-509.

61712. *Gossypium* sp.

No. 455-A.

61713. *Gossypium* sp.

No. 452-A.

61714. *Gossypium* sp.

Weber.

61715 and 61716. *Hordeum vulgare* PAL-
LIDUM Seringe. Poaceae.

Six-rowed barley.

61715. No. 62.

61716. No. 63.

61717 to 61719. *Oryza sativa* L. Poaceae.
Rice.

61717. No. 10. *Bokhara.*

61718. 16755-1922. Turkestan Repub-
lic. *Shala.*

61719. 170-F. Turkestan. *Shala.*

61696 to 61725—Continued.

61720. *SECALE CEREALE* L. Poaceae. Rye.
Abkhaz Republic.

61721. *TRIFOLIUM PRATENSE* L. Fabaceae.
Red clover.

360. 1174. No. 22.

61722 to 61724. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

61722. No. 50.

61723. [No notes.]

61724. From Abkhaz.

61725. *ZEA MAYS* L. Poaceae. Corn.
From Abkhaz.

61726 to 61737. *MEDICAGO SATIVA* L. Fa-
baceae. Alfalfa.

From South America. Seeds collected by
H. L. Westover, Bureau of Plant Indus-
try. Received July 14, 1924. Notes by
Mr. Westover.

61726. Near Lampa, Chile. May 13,
1924. Provenance alfalfa, produced on
the estate of Señor Marticorena, who
is a very large producer of this seed.
He procured the seed from France a
few years ago and has made every ef-
fort to keep it pure.

61727. Santa Ines, Chile. June 5, 1924.
Seeds from an unusually vigorous plant
found on the estate of Salvador Izqui-
erdo.

61728. June 1, 1924. From the Huasco
Valley, about 12 miles from Alta del
Carmen. Seed coming from this dis-
trict, which is very warm, is regarded
very highly.

61729. April 7, 1924. Procured from
Bridger Bros., Buenos Aires, and said
to have been produced in the northern
part of Argentina, where the climate is
very mild.

61730. March 31, 1924. Seeds collected
from a plant near Lupan de Cuyo,
Mendoza, Argentina.

61731. May 31, 1924. From near Mendoza,
Argentina.

61732. May, 1924. Puc F. C. Oeste,
Pampa, Argentina.

61733. March 26, 1924. Seeds produced
on the estate of the Chapman brothers,
near Enrique Lavalle, in the western
part of the Province of Buenos Aires.

61734. April 7, 1924. From Colonia
Alvear, Mendoza, Argentina, a region
comparatively free from frost.

61735. June 7, 1924. Seeds obtained from
Williamson & Co., Santiago, Chile.
This seed is said to have been grown
in the Huasco Valley, and many of
the alfalfa growers in Chile use seed
only from this source, as they claim
that it produces more and better hay
than seed from other parts of Chile.

61736. June 20, 1924. Purchased from
the seed store at Mollendo, Peru.
This seed, which should be similar to
our Smooth Peruvian, is said to have
been produced at Candarava, about 30
leagues from Mollendo, at a high alti-
tude.

61737. Pisco, Peru. June 21, 1924. Pur-
chased from the market. Probably
grown near the coast and should be
very similar to Hairy Peruvian.

INDEX OF COMMON AND SCIENTIFIC NAMES

- Acacia catechu*, 61593.
cavenia, 61393.
Acom, *Dioscorea latifolia*, 61090.
Acrocomia sclerocarpa, 61385.
Adenantha microsperma, 61478.
Adlay, *Coia lacryma-jobi ma-yuen*, 61235-61237.
Aeluropus littoralis, 61388.
Aeschynomene elaphroxylon, 61634.
Agropyron sp., 61318.
orientale, 61389.
semicostatum, 61317.
sibiricum, 61390.
triticeum, 61391.
Albizia adianthifolia, 61479.
chinensis, 61480.
fastigiata. See *A. adianthifolia*.
procera, 61594.
stipulata. See *A. chinensis*.
Alfalfa, *Medicago sativa*, 61199, 61402, 61436, 61726-61737.
Alhagi pseudalhagi, 61392.
camelorum. See *A. pseudalhagi*.
Aloe zebryna, 61635.
Ambash, *Aeschynomene elaphroxylon*, 61634.
Ammodendron karelini, 61394.
Amygdalus persica × *persica nectarina*, 61302.
Andropogon saccharoides, 60959.
Anneslia sp., 61002.
Anopterus glandulosus, 61324.
Anthoschmidtia sp., 61636.
Apple, *Malus sylvestris*, 61004.
Aristida sp., 61637.
Arrowroot, Bermuda, *Maranta arundinacea*, 61201.
Artemisia songarica, 61395.
Artocarpus communis, 61269.
Asparagus sp., 61638.
Astragalus contortuplicatus, 61396.
testiculatus, 61397.
vulpinus, 61398.
Attalea cohune, 60972, 60984.
Avena abyssinica, 61272.
sativa, 61306-61308, 61399.
sativa × *sterilis*, 61309.
sterilis, 61304, 61305.
Avocado, *Persea americana*, 61084.
Babiana spp., 61209, 61639.
Bacarabú, *Schizolobium parahybum*, 61502.
Bamboo, *Bambos polymorpha*, 61373.
Bambos polymorpha, 61373.
Barley, six-rowed, *Hordeum vulgare coeleste*, 61274, 61275, 61511-61568.
H. vulgare nigrum, 61569.
H. vulgare pallidum, 61339-61342, 61570-61592, 61715, 61716.
two-rowed, *H. distichon nudum*, 61506.
H. distichon palmella, 61234, 61314, 61334-61338, 61507-61510.
Bean, adzuki, *Phaseolus angularis*, 60960, 61021-61023, 61039-61041.
bertoni, *Phaseolus caracalla*, 61006.
broad, *Vicia faba*, 61038.
common, *Phaseolus vulgaris*, 61028-61033, 61044, 61094-61097.
Lima, *Phaseolus lunatus*, 61027.
mung, *Phaseolus aureus*, 60961, 61024, 61042.
rice, *Phaseolus calcaratus*, 61043, 61368-61372.
Scarlet Runner, *Phaseolus coccineus*, 61025, 61026.
velvet, *Stizolobium* sp., 61100.
Beard grass, silver, *Andropogon saccharoides*, 60959.
Berria ammonilla, 61482.
Billardiera longiflora, 61325, 61326.
Bischofia javanica. See *B. trifoliata*.
trifoliata, 61596.
Blackberry, Colombian, *Rubus macrocarpus*, 61065.
Blood lily, *Haemanthus katherinae*, 61248.
Boehmeria macrophylla, 61597.
Bouteloua megapota mica, 61003.
Breadfruit, *Artocarpus communis*, 61269.
Bromus danthoniae, 61400.
japonicus, 61401.
unioloides, 61231.
Brunsvigia josephinae, 61245.
Bucklandia populnea, 61598.
Bugle lily, *Watsonia* sp., 61251, 61252.
Bulbine sp., 61217.
Buphane ciliaris, 61246.
disticha, 61213.
Calliandra sp. See *Anneslia* sp.
Camel's thorn, *Alhagi pseudalhagi*, 61392.
Canarium ovatum, 61253.
Caper, *Capparis spinosa*, 61403.
Capparis spinosa, 61403.
Carpodinus hirsuta, 61085.
Castanopsis sp., 61063.
argentea, 61238.
Castilla elastica, 61483.
Casuarina distyla, 61484.
Catjang, *Vigna cylindrica*, 61055.
Cavan, *Acacia cavenia*, 61393.
Chamaedorea sp., 61626.
tepejilote, 61386.
Chestnut, *Castanopsis* sp., 61063.
Chick-pea, *Cicer arietinum*, 61066-61083, 61356-61365, 61407.
Chloris sp., 61088.
Chonemorpha macrophylla, 61599.
Cicer arietinum, 61066-61083, 61356-61365, 61407.
Citron, *Citrus medica*, 61200.
Citrullus vulgaris, 61640.
Citrus aurantifolia, 61312.
medica, 61200.
Clematis sp., 61641.
Clerodendrum colebrookianum, 61600.
Clitandra elastica, 61268.
Clover, red, *Trifolium pratense*, 61061, 61062, 61332, 61333, 61353-61355, 61378-61384, 61721.
Coffea bukobensis, 61485.
quillon, 61486.
Coffee. See *Coffea* spp.
Cohune, *Attalea cohune*, 60972, 60984.
Coia lacryma-jobi ma-yuen, 61235-61237.
Colocasia spp., 60985-60987, 61374-61377.
Combretum primigenum, 61642.
Copaifera coleosperma. See *Copaiva coleosperma*.
Copaiva coleosperma, 61643.
mopane, 61644.
Corchorus capsularis, 61226-61229.
olitorius, 61225.
Corn, *Zea mays*, 60989, 61310, 61311, 61445, 61725.
Corylopsis gotoana, 61273.
Cotoneaster salicifolia rugosa, 61001.
Cotton, *Gossypium* spp., 61233, 61696-61714.
Cotyledon spp., 61205, 61214, 61223.
Cowpea, *Vigna sinensis*, 60971, 61056, 61694, 61695.
Cracca sp., 61645.
Crataegus orientalis, 61331.
Crotalaria sp., 61646.
Crypsis aculeata, 61411.
Cryptomeria japonica, 61487, 61488.
Cupang, *Parkia timoriana*, 61064.
Cupressus funebris, 61489.
Cynodon plectostachys, 61089.
Cypress, mourning, *Cupressus funebris*, 61489.
Dalbergia sericea, 61601.
Delphinium rugulosum, 61412.
Desmodium cephalotes. See *Meibomia cephalotes*.
gyroides. See *Meibomia gyroides*.
Dioscorea latifolia, 61090.
Disa sp., 61202.
Dolichos lablab, 60975-60982, 61018-61020.

- Drimys aromatica*. See *D. lanceolata*.
lanceolata, 61327.
Duabanga sonneratioides, 61602.
- Echinochloa crusgalli*, 61415.
Elaeis melanococca, 61627.
Elaeocarpus cyaneus, 61057.
sikkimensis, 61603.
 Elm, Chinese, *Ulmus pumila*, 61000.
Elymus aralensis, 61416.
giganteus, 61417.
Engelhardtia spicata, 61604.
Ephedra distachya, 61418.
Eragrostis sp., 61091.
minor, 61419.
Eugenia curranii, 60974.
owariensis. See *Syzygium owariense*.
Euphorbia abyssinica, 61329, 61366.
Eversmannia subspinoso, 61421.
- Ficus* sp., 61010.
chlamydodora, 61490.
Flacourtia indica, 61647, 61648.
ramontchi. See *F. indica*.
Fragaria spp., 61243, 61244.
Fritillaria karelini, 61423.
Funtumia elastica, 61086, 61491.
- Galega officinalis*, 61232.
Garcinia mangostana, 61301.
Gladiolus spp., 61215, 61216, 61247, 61649, 61650.
Glycine hispida. See *Soja max*.
Glycyrrhiza aspera, 61424.
glabra, 61425.
triphylla, 61426.
uralensis, 61427.
- Goat's-rue, *Galega officinalis*, 61232.
Gossypium spp., 61233, 61696-61714.
 Grass, *Aeluropus littoralis*, 61388.
Agropyron orientale, 61389.
A. semicostatum, 61317.
A. sibiricum, 61390.
A. triticeum, 61391.
Andropogon saccharoides, 60959.
Anthoschmidtia sp., 61636.
Aristida sp., 61637.
Bouteloua megapotamica, 61003.
Bromus danthoniae, 61400.
B. japonicus, 61401.
Chloris sp., 61088.
Crypsis aculeata, 61411.
Cynodon plectostachys, 61089.
Elymus aralensis, 61416.
E. giganteus, 61417.
Eragrostis sp., 61091.
E. minor, 61419.
Heleochoia schoenoides, 61429.
Hordeum nodosum, 61319.
Latipes senegalensis, 61093.
Manisuris sp., 61676.
Panicum sp., 61679.
P. madagascariense, 61678.
P. milioides, 61254.
Paspalum sp., 61005.
P. dilatatum, 61255-61257.
P. distichum, 61408-61410, 61413, 61414, 61420.
Pogonarthria sp., 61680.
Polypogon crinitus, 61428.
P. maritimus, 61441.
Sorghastrum sp., 61435.
Sporobolus sp., 61685.
S. subinclusus, 61439.
Stenotaphrum secundatum, 61440.
Stipa papposa, 61442.
Themeda sp., 61688.
Thysanolaena maxima, 61625.
 barnyard, *Echinochloa crusgalli*, 61415.
 black Sudan, *Sorghum versicolor*, 61683, 61684.
 Dallis, *Paspalum dilatatum*, 61255-61257.
 Natal, *Tricholaena rosea*, 61690-61692.
 rescue, *Bromus unioloides*, 61231.
 Sudan, black, *Sorghum versicolor*, 61683, 61684.
 tabucki, *Holcus sorghum verticilliflorus*, 61674.
Grewia spp., 61651, 61652.
- Groundsel, climbing, *Senecio scandens*, 61623.
Gynocardia odorata, 61605.
- Haemanthus katherinae*, 61248.
 Hawthorn, *Crataegus orientalis*, 61331.
Heleochoia schoenoides, 61429.
 Hemp, ambari, *Hibiscus cannabinus*, 60958.
Hermimera elaphroxyton. See *Aeschynomene elaphroxyton*.
Heterospathe elata, 61323.
Hibiscus sp., 61271.
cannabinus, 60958.
Hiptage benghalensis, 61606.
madabloti. See *H. benghalensis*.
Holarrhena antidysenterica, 61607.
Holcus sorghum, 61092, 61448-61477, 61653-61673.
sorghum verticilliflorus, 61674.
Hordeum distichon palmella, 61234, 61314, 61334-61338, 61507-61510.
nodosum, 61319.
secalinum. See *H. nodosum*.
vulgare caeleste, 61274, 61275, 61511-61568.
nigrum, 61569.
pallidum, 61339-61342, 61570-61592, 61715, 61716.
 Hyacinth bean, *Dolichos lablab*, 60975-60982, 61018-61020.
Hymenoporum flavum, 61058.
Hypericophyllum sp., 61675.
- Indigo, *Indigofera australis*, 61059.
Indigofera australis, 61059.
Inga rufescens, 61628.
- Jasmine, Arabian, *Jasminum sambac*, 61230.
Jasminum sambac, 61230.
 Jute, *Corchorus* spp., 61225-61229.
- Lagerstroemia parviflora*, 61608.
Landolphia spp., 61016, 61017.
kirkii, 61492.
parvifolia, 61015.
stolzii, 61493.
- Larkspur, *Delphinium rugulosum*, 61412.
Latipes senegalensis, 61093.
Leptospermum scoparium, 61060.
Leucosceptum canum, 61609.
Leycesteria belliana, 61610.
glaucophylla, 61611.
- Licorice, *Glycyrrhiza aspera*, 61424.
G. glabra, 61425.
G. triphylla, 61426.
G. uralensis, 61427.
- Lilium regale*, 61494.
 Lily, royal, *Lilium regale*, 61494.
 Lime, *Citrus aurantifolia*, 61312.
Limonium otolepis, 61433.
Linoma alba, 61495.
 Lipoti, *Eugenia curranii*, 60974.
Lycopersicon esculentum, 61303.
- Malus sylvestris*, 61004.
 Mangosteen, *Garcinia mangostana*, 61301.
Manicaria saccifera, 61629.
Manihot glaziovii, 61496, 61497.
Manisuris sp., 61676.
 Manuka, *Leptospermum scoparium*, 61060.
Maranta arundinacea, 61201.
Martinezia erosa, 61313.
Mascarenhasia elastica, 61498.
Medicago sativa, 61199, 61402, 61436, 61726-61737.
Meibomia cephalotes, 61612.
gyroides, 61613.
Melilotus alba, 61437.
indica, 61322.
suaveolens, 61320.
Monodora myristica, 61499.
Montbretia sp.. See *Tritonia* sp.
Morus laevigata, 61614.
Mucuna macrocarpa, 61615.
 Mulberry, *Morus laevigata*, 61614.
Musa textilis, 61500.
- Nut, pill, *Canarium ovatum*, 61253.
 Nutmeg, calabash, *Monodora myristica*, 61499.
 Oak, *Quercus blumeana*, 61239.
Q. incana, 61621.
Q. induta, 61240.

- Oak, *Q. sundaica*, 61241.
Q. teysmannii, 61242.
- Oats, *Avena abyssinica*, 61272.
A. sativa, 61306-61308, 61399.
A. sterilis, 61304, 61305.
hybrid, *Avena sativa* × *sterilis*, 61309.
- Ornithogalum* sp., 61203.
natalense, 61249.
- Oryza sativa*, 61279-61298, 61633, 61677, 61717-61719.
- Palm, *Chamaedorea* sp., 61626.
C. tepejilote, 61386.
Elaeis melanococca, 61627.
Heterospathes elata, 61323.
Martinezia erosa, 61313.
macauba, *Acrocomia sclerocarpa*, 61385.
Ptychosperma sp., 61501.
- Panicum madagascariense*, 61678.
milioides, 61254.
- Parkia roxburghii*. See *P. timoriana*.
timoriana, 61064.
- Paspalum* sp., 61005.
dilatatum, 61255-61257.
distichum, 61408-61410, 61413, 61414, 61420.
- Pea. See *Pisum sativum*.
- Peach, hybrid, *Amygdalus persica* × *persica nectarina*, 61302.
- Peganum harmala*, 61438.
- Pepino, *Solanum muricatum*, 61434.
- Persea americana*, 61084.
gratissima. See *P. americana*.
- Phalaris bulbosa*, 61422.
- Phaseolus angularis*, 60960, 61021-61023, 61039-61041.
aureus, 60961, 61024, 61042.
calcaratus, 61043, 61368-61372.
caracalla, 61006.
coccineus, 61025, 61026.
lunatus, 61027.
semirectus, 61007, 61008.
vulgaris, 61028-61033, 61044, 61094-61097.
- Picea morindoides*, 61616.
- Piper attenuatum*, 61617.
- Pisum sativum*, 60962, 60963, 61034, 61277, 61278.
- Plum, hybrid, *Prunus spinosa* × *domestica*, 61224.
- Pogonarthria* sp., 61680.
- Polygala butyracea*, 61009.
- Polypogon crinitus*, 61428.
maritimus, 61441.
- Porana racemosa*, 61618.
- Potato, *Solanum tuberosum*, 61682.
- Prioria copaifera*, 61630.
- Prosopis* spp., 61404-61406.
- Prune, *Prunus domestica*, 60973.
- Prunus canescens*, 60957.
cerasoides, 61619.
domestica, 60973.
glandulosa, 60983.
puddum. See *P. cerasoides*.
spinosa × *domestica*, 61224.
- Ptychosperma* sp., 61501.
- Pygeum acuminatum*, 61620.
- Pyrus malus*. See *Malus sylvestris*.
- Quercus blumeana*, 61239.
incana, 61621.
induta, 61240.
sundaica, 61241.
teysmannii, 61242.
- Ramontchi, *Flacourtia indica*, 61647, 61648.
- Rheedia* sp., 61270.
lateriflora, 61631.
- Rice, *Oryza sativa*, 61279-61298, 61633, 61677, 61717-61719.
- Richea dracophylla*, 61328.
- Rubber, Ceara, *Manihot glaziovii*, 61496, 61497.
- Rubber tree, *Castilla elastica*, 61485.
Lagos, Funtumia elastica, 61086, 61491.
- Rubus macrocarpus*, 61065.
niveus, 61622.
- Rye, *Secale cereale*, 61098, 61720.
- Saccharum officinarum*, 61087.
- Salacia* sp., 60988.
- Salvadora persica*, 61367.
- Schizolobium excelsum*. See *S. parahybum*.
parahybum, 61502.
- Sea lavender, *Limonium otolepis*, 61433.
- Secale cereale*, 61098, 61720.
- Senecio scandens*, 61623.
- Sesamum angolense*, 61681.
- Snow creeper, *Porana racemosa*, 61618.
- Soja max*, 60964-60970, 61011-61014, 61035-61037, 61045-61054, 61258-61267, 61299, 61300.
- Solanum muricatum*, 61434.
tuberosum, 61682.
- Sorghastrum* sp., 61435.
- Sorghum, Holcus sorghum*, 61448-61477, 61653-61673.
grass, *Holcus sorghum*, 61092.
Sorghum veriscolor, 61683, 61684.
vulgare. See *Holcus sorghum*.
- Soy bean. See *Soja max*.
- Sphaerophysa salsula*, 61444.
- Sporobolus* sp., 61685.
subinclusus, 61439.
- Spruce, *Picea morindoides*, 61616.
- Statice otolepis*. See *Limonium otolepis*.
- Stenotaphrum secundatum*, 61440.
- Sterculia* spp., 61632, 61686.
- Stipa papposa*, 61442.
- Stizolobium* sp., 61100.
- Strawberry, *Fragaria* spp., 61243, 61244.
- Sugar cane, *Saccharum officinarum*, 61087.
- Sweet clover, *Melilotus indica*, 61322.
M. suaveolens, 61320.
white, *M. alba*, 61437.
- Syzygium owariense*, 61503.
- Taro, *Colocasia* spp., 60985-60987, 61374-61377.
- Telfairea pedata*, 61504.
- Terminalia bellerica*, 61505.
sericea, 61687.
tomentosa, 61624.
- Themeda* sp., 61688.
- Thysanolaena maxima*, 61625.
- Tomato, *Lycopersicon esculentum*, 61303.
- Tradescantia* sp., 61689.
- Tricholaena rosea*, 61690-61692.
- Trifolium pratense*, 61061, 61062, 61332, 61333, 61353-61355, 61378-61384, 61721.
- Trigonella arcuata*, 61446.
- Triticum aestivum*, 60990-60998, 61099, 61101-61103, 61276, 61343-61350, 61430-61432, 61693, 61722-61724.
durum, 61104-61198, 61351, 61352.
turgidum, 60999.
vulgare. See *T. aestivum*.
- Tritonia* sp., 61250.
- Tulip, *Tulipa borszczowi*, 61447.
- Tulipa borszczowi*, 61447.
- Ulmus pumila*, 61000.
- Undetermined, 61204, 61206-61208, 61210-61212, 61218-61222, 61330.
- Urceola esculenta*, 61315, 61316.
- Vetch. See *Vicia* spp.
- Vicia* sp., 61443.
amoena, 61321.
faba, 61038.
- Vigna cylindrica*, 61055.
sinensis, 60971, 61056, 61694, 61695.
- Watermelon, *Citrullus vulgaris*, 61640.
- Watsonia* sp., 61252.
rosea, 61251.
- Wheat, common, *Triticum aestivum*, 60990-60998, 61099, 61101-61103, 61276, 61343-61350, 61430-61432, 61693, 61722-61724.
durum, T. durum, 61104-61198, 61351, 61352.
poulard, T. turgidum, 60999.
- Wormwood, *Artemisia songarica*, 61395.
- Xanthosoma violaceum*, 61387, 61595.
- Yautia, *Xanthosoma violaceum*, 61387, 61595.
- Zea mays*, 60989, 61310, 61311, 61445, 61725.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

March 28, 1927

<i>Secretary of Agriculture</i>	W. M. JARDINE.
<i>Assistant Secretary</i>	R. W. DUNLAP.
<i>Director of Scientific Work</i>	A. F. WOODS.
<i>Director of Regulatory Work</i>	WALTER G. CAMPBELL.
<i>Director of Extension Work</i>	C. W. WARBURTON.
<i>Director of Information</i>	NELSON ANTRIM CRAWFORD..
<i>Director of Personnel and Business Adminis- tration</i>	W. W. STOCKBERGER.
<i>Solicitor</i>	R. W. WILLIAMS.
<i>Weather Bureau</i>	CHARLES F. MARVIN, <i>Chief</i> ..
<i>Bureau of Agricultural Economics</i>	LLOYD S. TENNY, <i>Chief</i> .
<i>Bureau of Animal Industry</i>	JOHN R. MOHLER, <i>Chief</i> .
<i>Bureau of Plant Industry</i>	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Forest Service</i>	W. B. GREELEY, <i>Chief</i> .
<i>Bureau of Chemistry</i>	C. A. BROWNE, <i>Chief</i> .
<i>Bureau of Soils</i>	MILTON WHITNEY, <i>Chief</i> .
<i>Bureau of Entomology</i>	L. O. HOWARD, <i>Chief</i> .
<i>Bureau of Biological Survey</i>	E. W. NELSON, <i>Chief</i> .
<i>Bureau of Public Roads</i>	THOMAS H. MACDONALD, <i>Chief</i> ..
<i>Bureau of Home Economics</i>	LOUISE STANLEY, <i>Chief</i> .
<i>Bureau of Dairy Industry</i>	C. W. LARSON, <i>Chief</i> .
<i>Office of Experiment Stations</i>	E. W. ALLEN, <i>Chief</i> .
<i>Office of Cooperative Extension Work</i>	C. B. SMITH, <i>Chief</i> .
<i>Library</i>	CLARIBEL R. BARNETT, <i>Librarian</i> ..
<i>Federal Horticultural Board</i>	C. L. MARLATT, <i>Chairman</i> .
<i>Insecticide and Fungicide Board</i>	J. K. HAYWOOD, <i>Chairman</i> .
<i>Packers and Stockyards Administration</i>	JOHN T. CAINE III, <i>in Charge</i> ..
<i>Grain Futures Administration</i>	J. W. T. DUVEL, <i>in Charge</i> .

This inventory is a contribution from

<i>Bureau of Plant Industry</i>	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Office of Foreign Plant Introduction</i>	DAVID FAIRCHILD, <i>Senior Agri- cultural Explorer, in Charge</i> ..



UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 81



Washington, D. C.

Issued April, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM OCTOBER 1 TO DECEMBER 31, 1924 (S. P. I. NOS. 61738 TO 62230)

CONTENTS

	Page
Introductory statement-----	1
Inventory-----	3
Index of common and scientific names-----	27

INTRODUCTORY STATEMENT

In July, 1924, P. H. Dorsett, of the Office of Foreign Plant Introduction, and his son, J. H. Dorsett, were detailed for agricultural exploration work in northern China. Shipments of plant material which they collected began to arrive in Washington in October, 1924, the greater part coming from the vicinity of Peking, in the Province of Chihli. The lists of the Dorsetts' collections in northern China take up a conspicuous part of this inventory and include both seeds and scions of a large number of fruits, such as peaches, pears, apples, persimmons, apricots, grapes, and quinces, also walnuts, chestnuts, hazelnuts, various vegetables, and a number of woody and herbaceous ornamentals.

The collection of varieties of *Diospyros kaki* (Nos. 61837 to 61842) obtained by Mr. Dorsett in the vicinity of Peking, China, may include valuable additions to the list of excellent varieties previously introduced and now in the trade in this country, such as the nonastringent Fuyu (S. P. I. No. 26491) and the Tamopan (S. P. I. No. 16921), an excellent keeper.

While on his way to carry on agricultural explorations in the East Indies, David Fairchild of this office spent several days at the Royal Botanic Gardens, Kew, England, and also at Aldenham House, the estate of Hon. Vicary Gibbs, at Elstree, Herts. England. At the Royal Botanic Gardens Doctor Fairchild procured seeds of the dove tree (*Davidia involucrata vilmoriniana*, No. 62022). This is a handsome Chinese relative of the dogwood, and only one specimen is known to be in cultivation in this country. At Aldenham House there has been gathered together a remarkable collection of hardy rare trees and shrubs, mostly from eastern Asia, and seeds of a number of these were obtained by Doctor Fairchild (Nos. 61972 to 61996).

In the preceding inventory (No. 80) mention was made of the agricultural explorations being conducted in Argentina and Chile by H. L. Westover, of the Office of Forage Crops. During this period Mr. Westover was still abroad, and he sent in not only a number of local strains of alfalfa but also seeds of a number of native forage plants and grasses (Nos. 62060 to 62073, 62075 to 62092).

Of similar interest to Mr. Westover's shipments is a large collection of grasses, mostly native to southern South America, presented by the Federación Rural, Montevideo, Uruguay (Nos. 62031 to 62059). These grasses will

undoubtedly be of great interest to agronomists attempting to develop strains of forage plants suitable for parts of the Southern States.

Among the shipments sent from northern China by Mr. Dorsett, whose work is mentioned above, were tubers of *Stachys sieboldi* (No. 61897). This species has been introduced a number of times previously and has been grown with satisfactory results. However, its tubers are small, and for this reason it does not have the appeal to growers that it might otherwise. It resembles closely our native *Stachys floridana* of the South, and should be given serious attention by plant breeders along with the latter species.

Seeds of *Arachis nambyquarae* (No. 62099), introduced in 1924, have since been grown at several of our southern experiment stations, where the plants have proved to be well adapted for growing in their new environment. The large seeds of this Brazilian relative of our common peanut make it of special interest for general experimental work.

Actinidia venosa (No. 61803) may be of value only as an ornamental, but it is a welcome addition to the Actinidias now grown in this country. These include *A. arguta*, which is hardy as far north as Massachusetts and which bears an edible fruit about an inch long, and *A. chinensis*, which bears a much larger edible fruit but which is adapted for growing only in the southern half of the United States.

The present popularity of the Japanese flowering cherries in this country is due in large measure to the fact that this office has been introducing, for several years, promising varieties from the Orient. Capt. Collingwood Ingram, of Benenden, Kent, England, who has a large private collection of flowering cherries, has presented plants of a variety which he has called Kojima (*Prunus serrulata*, No. 62101). This variety, which originated in his garden, has very large, semidouble, pure white flowers borne in drooping corymbs, and should prove a real addition to our present collection.

Specialists in the United States working with strawberries and potatoes will be interested in a collection of wild strawberry plants (*Fragaria* sp., No. 61885) and types of wild potatoes (*Solanum* spp., Nos. 61886 to 61892) made by Elbert E. Reed, of the Instituto Agrícola Bunster, on the island of Chiloe, off the coast of Chile. Many of the cultivated strawberries of the American trade are derived in part from the Chiloe strawberry (*Fragaria chiloensis*), which is native to this region.

The botanical determinations of seeds introduced have been made and the nomenclature determined by H. C. Skeels, and the descriptive notes have been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,
Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., September 17, 1926

INVENTORY¹

61738 and 61739.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1924.

61738. AMPELOPSIS ACONITIFOLIA Bunge. Vitaceæ.

No. 904. Near Laochun. October 10, 1924. The bright-blue fruits make this vine a good ornamental. (*Dorsett.*)

61739. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceæ. Peach.

No. 761. Peking. October 6, 1924. Seeds of a domesticated peach. (*Dorsett.*)

61740. PERSEA AMERICANA Mill. (*P. gratissima* Gaertn. f.). Lauraceæ. Avocado.

Fruits from the Plant Introduction Garden, Miami, Fla. Received at Washington, November 20, 1924.

A cross between the Collinson and Trapp avocados, made at the Plant Introduction Garden, Miami, February, 1921, by Edward Simmonds. Fruited first time this year [1924].

Fruits about 4 inches long and 3½ inches wide, roundish obovate, slightly oblique; stem short, thick, inserted at a slight angle; cavity small, shallow, wrinkled; apex obliquely flattened, slightly depressed at stigmatic point; surface smooth, light green; dots numerous, yellowish, conspicuous; skin of medium thickness, adhering rather closely to the flesh; flesh creamy yellow, greenish near skin, smooth, buttery, with rich, nutty flavor and no fiber; seed large, tight in the cavity, free from seed coats.

61741. CAMPANULA sp. Campanulaceæ. Bellflower.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 8, 1924.

No. 712. October 10, 1924. Seeds of a plant with very pretty purple, bell-shaped flowers, collected along the trail from the Ming tombs to Silver Mountain. (*Dorsett.*)

61742 to 61746.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received December 24, 1924.

61742. ACER OSMASTONI Gamble. Aceraceæ. Maple.

A large Himalayan maple, described (Kew, Bulletin of Miscellaneous Information, 1908, p. 446) as a tree up to 100 feet tall, growing wild in Sikkim, India, at an altitude of about 7,000 feet. The leaves, 1 to 3 lobed, are papery and about 5 inches long.

61743. ACER STACHYOPHYLLUM Hiern. Aceraceæ. Maple.

A small maple, native to Sikkim, India, at an altitude of 10,000 feet.

61744. ALANGIUM ALPINUM (C. B. Clarke) Smith and Cave. Cornaceæ.

A deciduous tree, about 40 feet high, native to the eastern Himalayas and related to the dogwood. The white flowers are in lax 3-flowered, axillary clusters, and are succeeded by black fruits.

61745. DECAISNEA INSIGNIS (Griffith) Hook. f. and Thoms. Lardizabalaceæ.

An upright, sparingly branched shrub, much resembling a large-leaved sumac, found in the eastern Himalayas. The leaves, often 3 feet long, are made up of 13 to 25 elliptic, acuminate leaflets, bright green above and slightly glaucous beneath. The racemes of pendulous, greenish flowers resemble those of a yucca, but are smaller. These are followed by edible, yellow fruits, 3 to 4 inches long and about 2 inches thick, filled with a whitish pulp and black seeds.

61746. GAULTHERIA FRAGRANTISSIMA Wall. Ericaceæ.

A very fragrant evergreen shrub or small tree found in the mountains of India from Nepal eastward to Bhutan. In summer it is loaded with white or pinkish flowers, which are followed by beautiful racemes of blue-purple fruits.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature. It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

61747 and 61748. *LILIUM* spp. *Lilia-*
ceæ. **Lily.**

From Goring by Sea, Sussex, England. Bulbs presented by Maj. F. C. Stern. Received December 30, 1924.

61747. *LILIUM FARRERI* Turill.

From a packet of mixed seeds collected in China by the well-known botanical explorer, Reginald Farrer, there was grown this handsome lily, described in Curtis's Botanical Magazine (pl. 8847) as having erect stems, nearly 3 feet in height, and numerous narrow leaves scattered along the entire stem. The relatively small but fragrant flowers, white with purple spots, are terminal and either solitary or in loose 6-flowered umbels. This lily has proved hardy in the mild-wintered region of southeastern England.

61748. *LILIUM CENTIFOLIUM* Stapf. **Lily.**

This Chinese lily was originally discovered by Reginald Farrer, according to the Botanical Magazine (pl. 8960); Mr. Farrer found it growing in a little garden at Siku, Kansu, in 1914. The stem, densely leafy and somewhat glaucous, is up to 7 or 8 feet in height, arising from a slightly depressed bulb about 3 inches in diameter. The numerous leaves are dark green above and paler below, linear or linear-lanceolate, and up to 18 inches long. The sweet-scented flowers, 6 to 18 in number, are arranged in a short, almost umbellike raceme. The individual flowers are 6 inches long and about 4 inches across the mouth. Within, the perianth is pure white, blending into lemon yellow in the throat; the outer segments are richly flushed with dark purple, while the broader inner segments are greenish with deep, brownish-purple midribs. The anthers are rusty red.

61749 to 61760.

From Kaifeng, Honan, China. Seeds purchased from R. M. Lewis, St. Andrew's School. Received December 20, 1924. Notes by Mr. Lewis.

Collection of seed from the largest grain store in Kaifeng.

61749 and 61750. *PHASEOLUS AUREUS* Roxb. **Fabaceæ. Mung bean.**

Two varieties of average quality, planted around the 5th of May, and maturing early, or later if dry.

61749. No. 8. *Lü Hui tou* (green gray).

61750. No. 7. *Ming Lü tou* (shiny green).

61751 and 61752. *PISUM SATIVUM* L. **Fabaceæ. Pea.**

61751. No. 11. *Hua wan* and *huang wan* (mottled and yellow). A variety of average quality, planted during September and maturing in May.

61752. No. 12. *Huang wan* (yellow). One of the best varieties; planted in September and maturing in May.

61753 to 61758. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). **Fabaceæ. Soy bean.**

61753. No. 1. *Hei* (black). A variety of average quality, planted about May 5 and maturing in September.

61754. No. 2. *Hsiao hei* (small). A variety a little better than the average, planted around May 5 and maturing during September.

61749 to 61760—Continued.

61755. No. 3. *Huang* (yellow). A soy bean of average quality, planted about May 5 and maturing during September.

61756. No. 4. *Huang* (yellow). A variety of the best quality, planted about May 5 and maturing during September.

61757. No. 5. *Ching* (green, literally "clear"). Of good quality, planted about May 5 and maturing late.

61758. No. 6. *Ching* ("clear"). A variety of average quality, planted about May 5 and maturing late.

61759 and 61760. *VIGNA SINENSIS* (Toner) Savi. **Fabaceæ. Cowpea.**

Varieties of average quality, planted about May 5 and maturing during September.

61759. No. 9. *Pai Chiang* (white kidney).

61760. No. 10. *Hung Chiang* (red kidney).

61761. *CANARIUM ALBUM* (Lour.) DC. **Balsameaceæ.**

From Peking, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 6, 1924.

No. 759. October 1, 1924. *Ching Kuo* (green nut). An olive-green and olivelike fruit shipped in to the market from the south. This may be made into a good candied fruit something like citron. (Dorsett.)

61762 to 61766.

From Simla, India. Plants presented by H. E. J. Peake, Khaltoo Fruit Orchards, Solan, through Walter T. Swingle, Bureau of Plant Industry. Received October 2, 1924.

61762. *BELOU MARMELOS* (L.) Lyons (*Aegle marmelos* Correa). **Rutaceæ. Bel.**

The bel is a small, handsome tree, closely related to the genus *Citrus*; it is native to northern India, but is widely cultivated throughout India, Siam, and Indo-China. It is often spiny and has deciduous, trifoliate leaves. The greenish, globular fruit, usually about 4 inches in diameter, has a hard shell which incloses greenish, aromatic pulp of sweetish flavor. Sherbets are made from the mashed pulp, and also a beverage. In northern India the bel is said to endure a temperature of 20° F. without injury.

61763. *CITRUS* sp. **Rutaceæ.**

This is native to the Simla Hills. (Peake.)

61764. *CITRUS* sp. **Rutaceæ.**

61765. *HESPERETHUSA CRENULATA* (Roxb.) Roemer. **Rutaceæ.**

This is a shrub or small tree growing in dry situations in India, sometimes at a height of 4,000 feet. The fruits are very small, but occasionally used as a condiment by the natives. The wood is hard and suitable for parts of machinery where great strength and toughness are required. This plant belongs to the orange family and is introduced primarily in connection with experiments now in progress in the breeding of new types of citrus fruits and stocks for the same.

61762 to 61766—Continued.

61766. *TOONA CILIATA* Roemer (*Cedrela toona* Roxb.). Meliaceæ. Toon tree.

A large Himalayan tree, 50 to 80 feet high, with nearly evergreen foliage and white, honey-scented flowers. The wood, which is used for furniture, carvings, and for making cigar boxes, is very durable and is not attacked by termites.

61767. *CORDEAUXIA EDULIS* Hemsl. Cæsalpiniaceæ. Yeheb nut.

From Kew, Surrey, England. Plants presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received October 3, 1924.

The Yeheb nut is a leguminous shrub or small tree which grows wild in the great semiarid region of Italian Somaliland, known as the "Haud," where its highly nutritious nuts are a staple food of the Somali tribes who inhabit the region, and are offered in the markets on the Somali coast. The thick, evergreen leaves of this shrub are about 4 inches long, with usually four pairs of leaflets, and the crisp, leathery pod is slightly over 2 inches long. In composition the Yeheb nut closely resembles the chestnut and is comparable to it in food value. The region where the shrub is found indicates that while it should prove very drought resistant it is not likely that it will stand frost, although tests are necessary to determine this point.

61768. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

From Cuenca, Ecuador. Seeds presented by E. Malo A., British vice consulate. Received October 7, 1924.

This is a sample of the alfalfa we grow in this district; we have known single plants to become over 3 feet high. We believe this may be Peruvian alfalfa. (Malo.)

61769. *PSIDIUM GUAJAVA* L. Myrtaceæ. Guava.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received October 7, 1924.

A very fine large guava with golden-green skin and yellow pulp. The flavor is so sweet that the addition of sugar is unnecessary. The plant is vigorous and prolific. (Towns.)

61770. *ECHINOCHLOA HOLCIFORMIS* (H. B. K.) Chase. Poaceæ. Grass.

From the city of Mexico, Mexico. Seeds presented by Arthur Stockdale. Received October 7, 1924.

An erect perennial grass, 6 feet or more high, from humid, mountainous regions of Mexico. Introduced for testing as forage.

61771. *MAGNOLIA CAMPBELLII* Hook. f. and Thoms. Magnoliaceæ.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received October 7, 1924.

According to Curtis's Botanical Magazine (pl. 6793), this is a beautiful, deciduous magnolia from the Himalayas, where it ascends to 8,000 feet above sea level. It reaches a height of 80 feet, has very dark bark, large elliptical dark-green leaves, and white to purple flowers 10 inches in diameter. This magnolia has flowered freely in southern France and Italy.

For previous introduction see S. P. I. No. 55688.

61772. *ARACHIS HYPOGAEA* L. Fabaceæ. Peanut.

From Potchefstroom, Union of South Africa. Seeds presented by F. C. Fellschop, School of Agriculture, Potchefstroom, through J. H. Beattie, Bureau of Plant Industry. Received October 9, 1924.

Locally grown seeds introduced for cultural tests and comparison with American-grown varieties.

61773. *SOLANUM OPACUM* A. Br. and Bouche. Solanaceæ.

From Sydney, New South Wales. Seeds presented by George Valder, undersecretary and director, Department of Agriculture. Received October 9, 1924.

An annual Australian Solanum which is closely related to the nightshade (*S. nigrum*) and appears to have shown some value as a fodder plant, according to the Agricultural Gazette of New South Wales for October 31, 1921. No harmful effects on stock were observed after numerous feeding tests.

61774. *AFZELIA BREIYI* Wildem. Cæsalpiniaceæ.

From Brussels, Belgium. Seeds presented by Dr. Esmond Leplae, Director General of Agriculture. Received October 1, 1924.

Among the recent additions to the flora of the Belgian Congo is a leguminous tree whose seeds contain an oil promising both as an edible oil and for illumination. The tree is described (Bulletin Agricole du Congo Belge, March, 1923) as having an ultimate height of 100 feet, with finely cracked bark and handsome, bluish-green pinnate foliage. The kidney-shaped pods, about 8 inches long and 5 inches wide, contain reddish-brown seeds 1½ inches long. The oil obtained from these seeds is light brownish yellow, with a sweet, agreeable flavor resembling that of some types of olive oil.

61775. *CORNUS CONTROVERSA* Hemsl. Cornaceæ. Giant dogwood.

From Jamaica Plain, Mass. Seeds collected by B. Y. Morrison, Bureau of Plant Industry. Received October 17, 1924.

This Chinese dogwood is one of the most striking of the genus; in its native home it sometimes becomes a tree 60 feet in height with a trunk 7 feet in girth. The numerous long branches extend at right angles to the trunk, with the lowest sometimes touching the ground. The white or slightly yellowish flowers are in flat clusters 6 or 7 inches in diameter, appearing from late May to early June. The black shining fruits which follow are eaten by the birds as fast as they ripen.

61776 and 61777.

From Nairobi, Kenya Colony, Africa. Seeds presented by S. Battiscombe, conservator of forests, Forest Department. Received October 17, 1924.

61776. *BRACHYLAENA HUTCHINSHII* Hutchinson. Asteraceæ.

The hard, white timber of this tall East African tree is durable, easily worked, and not subject to attack by termites. In height the tree reaches 90 to 100 feet; the branches are upright and are confined to the upper fourth of the trunk.

61776 and 61777—Continued.

61777. *OLEA CHRYSOPHYLLA* Lam. Oleaceae.

A small East African relative of the cultivated olive; its chief ornamental value lies in the golden color of the under surfaces of the leaves.

61778. *AGATI GRANDIFLORA* (L.) Desv. (*Sesbania grandiflora* Poir.). Fabaceae.

From Summit, Canal Zone. Seeds presented by Holger Johansen, Plant Introduction Garden. Received October 17, 1924.

A small, rapid-growing, soft-wooded tree, 15 to 20 feet in height, with pinnate leaves and large pendulous white flowers, followed by long, sickle-shaped pods. The fleshy petals are used in curries and soups in the Indian Archipelago, where this tree is native. The leaves and young shoots are sometimes used as fodder.

For previous introduction see S. P. I. No. 57079.

61779. *RUBUS* sp. Rosaceae.

Blackberry.

From Kew, England. Seeds presented by Dr. J. Burt Davy, Royal Botanic Gardens. Received November 5, 1924.

Selected Dartmoor (Devonshire) blackberries. The berries are large, full, and of exceptionally good flavor. Found growing wild in a hedge at Bag Tor, Ilstington, South Devon, at 800 feet altitude. (Burt Davy.)

61780 and 61781. *SOLANUM* spp. Solanaceae.

From Wolverhampton, England. Tubers presented by F. W. Keay. Received October 24, 1924.

Of possible value for breeding purposes.

61780. *SOLANUM* sp.

A seedling of unknown parentage.

61781. *SOLANUM DEMISSUM* × *TUBEROSUM*. Potato.

61782 to 61785.

From Argentina. Seeds presented by A. K. Bulley, Ness, Neston, England. Received October 1, 1924.

These seeds were sent to Mr. Bulley by W. T. Goethe, who collected them while in Argentina.

61782 to 61784. *BERBERIS* spp. Berberidaceae. Barberry.

61782. *BERBERIS* sp.

No. 191. A yellow-flowered evergreen shrub. (Goethe.)

61783. *BERBERIS* sp.

No. 242.

61784. *BERBERIS* sp.

No. 271. Large fruits, of good color. (Goethe.)

61785. *NOTHOFAGUS BETULOIDES* (Mirb.) Oerst. Fagaceae.

No. 62. One of the principal trees which make up the dense, dark forests of Tierra del Fuego is this evergreen species, according to the Gardeners' Chronicle (ser. 3, vol. 33). In favorable localities it becomes very large. It is closely related to the beech (*Fagus* spp.), but has small evergreen leaves.

61786 to 61793.

From Ness, Neston, England. Seeds presented by A. K. Bulley. Received October 1, 1924.

61786. × *GEUM BORISII* Kellerer. Rosaceae.

According to a note in the Allgemeine Botanische Zeitschrift (vol. 12, p. 91) this interesting hybrid is the result of a cross between *Geum reptans* L. and *G. bulgaricum* Panc. It was discovered by J. Kellerer on Mount Rilo, Bulgaria, and has pendent, yellow flowers.

61787. *MECONOPSIS PSEUDOINTEGRIFOLIA* Prain. Papaveraceae.

A stemless hairy plant from southwestern Tibet, China, with narrow leaves and one-flowered scapes; the flowers are bright yellow and up to 3 inches in diameter.

For previous introduction see S. P. I. No. 55302.

61788. *MECONOPSIS SINUATA* Prain. Papaveraceae.

Var. *latifolia*. A horticultural form which is generally similar to *Meconopsis aculeata*, but the leaves are less lobed, and the stigma is deep pink or orange rather than green. The plant is 1 to 4 feet high, with spreading prickles, oblong leaves about 6 inches long, and blue flowers. Native to the Himalayas.

61789 to 61792. *PRIMULA* spp. Primulaceae.

61789. *PRIMULA CHIONANTHA* Balf. and Forr. Primrose.

Many interesting and attractive primroses have been found in Yunnan, China; the one here considered was found in that province by G. Forrest, who collected it on the Chungtien Plateau at an altitude of 13,000 feet. It is described in Curtis's Botanical Magazine (pl. 8816) as a stout herbaceous plant 1 to 2 feet high, with blunt, narrowly oval leaves, sulphur mealy beneath, and clusters of white flowers borne in a many-flowered umbel at the apex of a stout scape. It appears to thrive best in rich, moist soil and has proved perfectly hardy at Kew, England.

61790. *PRIMULA COCKBURNIANA* Hemsl. Primrose.

A glabrous primrose from western China, with membranous, oblong leaves and yellow flowers borne on a slender scape a foot or more in height.

61791. *PRIMULA INVOLUCRATA* Wall. Primrose.

A Himalayan primrose with leathery, oval leaves and a long, slender scape bearing many-flowered umbels of white flowers.

61792. *PRIMULA* sp. Primrose.

Red Hugh. A hybrid of *Primula beesiana*. (Bulley.)

61793. *ROSCOEIA CAUTLEOIDES* Gagn. Zin- ziberaceae.

A perennial herbaceous, gingerlike plant, 9 to 12 inches high, native to China, with thick, fleshy roots, irislike leaves, and primrose-yellow flowers borne on many-flowered scapes.

61794. RIBES sp. Grossulariaceæ.
Gooseberry.

From Vineland Station, Ontario, Canada. Plants presented by James A. Neilson, Horticultural Experiment Station. Received November 7, 1924.

Clark. This variety was found in the garden of Jabez Clark, of Burlington, Ontario. It is believed to be a chance hybrid between the American and European species. This variety has been growing at the Horticultural Experiment Station since 1911 and is the only variety that survived on our very heavy clay soil. The bush is a vigorous grower and retains its foliage late in the season. It yields heavily and bears large fruits of good quality and appearance. The plants appear to be drought resistant. We consider this variety one of the best for commercial culture in this district. (*G. H. Dikson, Vineland Station.*)

61795 and 61796.

From Dar es Salaam, Tanganyika Territory, Africa. Seeds presented by the director, Department of Agriculture. Received October 21, 1924.

61795. CRYPTOSTEGIA GRANDIFLORA R. Br.
Asclepiadaceæ. Palay rubber.

An erect, woody climber of unknown nativity but now cultivated in many places in the Tropics of both hemispheres as an ornamental, and occasionally growing as an escape from cultivation. The flowers, reddish purple becoming pale pink, are about 2 inches across and are produced in short spreading cymes. In India the plant is called palay; it is cultivated for the rubber obtained from the juice.

For previous introduction see S. P. I. No. 58851.

61796. FICUS VOLKENSII Warb. Moraceæ.

This tropical African representative of the genus is a shrub or small tree with narrow, papery leaves.

61797 and 61798. ACACIA spp. Mimosaceæ.
Hybrid acacia.

From Mandelieu, near Cannes, Alpes Maritimes, France. Seeds presented by A. Richon. Received October 23, 1924. Notes by Mr. Richon.

61797. ACACIA BAILEYANA × DEALBATA.

The hybrids of these species bear very long spikes of well-colored flowers. They resemble *Acacia dealbata* in being hardy, but, unlike that species, the leaflets do not fold up in the evening. Some develop root suckers; others do not.

61798. ACACIA sp.

Bon Accueil. This is a chance hybrid, perhaps between *Acacia decurrens* and *A. dealbata*. I consider it one of the most beautiful acacias grown on the Riviera. The flower clusters have up to 40 heads, larger than the best varieties of *A. dealbata*; they are beautifully grouped at the ends of the branches. The leaves are bright green with long, very fine leaflets. The tree is vigorous and about 20 feet high, but a little less hardy than *A. dealbata*.

61799 and 61800.

From Africa. Seeds collected by H. L. Shantz, Bureau of Plant Industry. Received October 24, 1924. Notes by Doctor Shantz.

61799. HYPERICOPHYLLUM sp. Asteraceæ.

No. 217. Above Inhamica, Tanganyika Territory. April 21, 1924. A bright, reddish orange composite.

61800. PAHUDIA QUANZENSIS (Welw.) Prain. (Afzelia quanzensis Welw.).
Cæsalpiniaceæ.

No. 483. Beira, Portuguese East Africa. May 24, 1924. A broad, spreading tree, with very rich pinnate foliage, regarded as one of the most beautiful trees for street planting and for parks. It produces beautiful wood, mahoganylike, but of much coarser grain.

For previous introduction see S. P. I. No. 49310.

61801. OXALIS INCARNATA L. Oxalidaceæ.

From Algiers, Algeria. Bulbs presented by Dr. L. Trabut. Received October 25, 1924.

A very attractive, low, bulbous plant, with reddish-purple leaves, dotted beneath, and bell-shaped flesh-colored flowers. Native to South Africa.

61802. PRUNUS sp. Amygdalaceæ.

From Siberia. Plants collected by Prof. N. E. Hansen, South Dakota State College, Brookings, S. Dak. Received October 25, 1924.

Of possible value as a stock.

61803. ACTINIDIA VENOSA Rehder. Dilleniaceæ.

From Elstree, Herts, England. Cuttings presented by Vicary Gibbs, Aldenham House, through David Fairchild, Bureau of Plant Industry. Received November 1, 1924.

A climbing shrubby plant from the mountains of western Szechwan, China, which may prove an interesting ornamental. It is described (*Plantae Wilsonianae*, vol. 2) as being up to 25 feet in height, with oval, membranous leaves, short clusters of buff-yellow flowers, and small, russet berries.

61804. PRUNUS CERASUS L. Amygdalaceæ.
Morello cherry.

From Dropmore, Manitoba, Canada. Seeds presented by F. L. Skinner. Received November 8, 1924.

From seedlings of the hardy Koslov-Morello cherry.

61805 to 61809. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceæ.
Soy bean.

From Shaoling, Chekiang, China. Seeds presented by Rev. A. F. Ufford, American Baptist Foreign Mission Society. Received October 25, 1924.

61805. Black variety, A.

61806. Black variety, B.

61807. Green variety, A.

61808. Green variety, B.

61809. Two white varieties, mixed.

61810. DIOSPYROS SABIENSIS Hiern. Di-
ospyraceæ. Persimmon.

From Mount Silinda, Southern Rhodesia. Seeds presented by Dr. W. L. Thompson. American Board Mission. Received November 10, 1924.

A wild persimmon from this region; the tree grows to a large size, 100 feet or more in height, and the fruit, which is very sweet and popular with the natives, is too small and full of seeds to be of much value. I have not yet tried this species as a stock for the larger fruited forms. (Thompson.)

61811 to 61832.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November, 1924. Notes by Mr. Dorsett.

61811 to 61817. AMYGDALUS spp. Amygdalaceæ.

61811 to 61816. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Peach.

61811. No. 440. August 30, 1924.

61812. No. 474. September 2, 1924.

61813. No. 481. September 2, 1924.

61814. No. 497. September 4, 1924.

61815. No. 50. September 4, 1924.

61816. No. 514. September 6, 1924.

61817. AMYGDALUS PERSICA PLATYCARPA (Decaisne) Ricker. Flat peach.

No. 439. August 30, 1924. These are reported to have come from Tsinan, Shantung Province.

61818. ARACHIS HYPOGAEA L. Fabaceæ. Peanut.

No. 754½. Peking. September 29, 1924. Purchased in the market; said to have come from the South; mostly two seeded.

61819 to 61826. MALUS spp. Malaceæ. Apple.

Seeds of domesticated apples; obtained in the Peking market.

61819. MALUS sp.

No. 443. August 30, 1924.

61820. MALUS sp.

No. 444. August 30, 1924.

61821. MALUS sp.

No. 445. August 30, 1924.

61822. MALUS sp.

No. 475. September 2, 1924.

61823. MALUS sp.

No. 479. September 2, 1924.

61824. MALUS sp.

No. 480. September 2, 1924.

61825. MALUS sp.

No. 498. September 4, 1924.

61826. MALUS sp.

No. 502. September 4, 1924.

61827. PRUNUS sp. Amygdalaceæ. Plum.

No. 477. Peking. September 2, 1924. From fruits purchased in the market; may be useful as stock.

61811 to 61832—Continued.

61828 to 61832. PYRUS spp. Malaceæ. Pear.

61828. PYRUS sp.

No. 496. September 4, 1924. Seeds from fruit taken from a tree in Mr. Strong's garden at the village of Mao-Chiotu, about 4 miles east of the east gate of the Peking wall. As an ornamental, with its abundance of small, bright-red fruits, it is very handsome.

61829. PYRUS sp.

No. 703. September 19, 1924. Collected near the village of Liangchakou. This tree, which was loaded with small, bright-red fruits, may prove useful as an ornamental or for stock.

61830 to 61832. Peking. September 29, 1924. From the market. Small, wild pears said to be used in the western hills for stock. They are much larger than the wild Chinese pears we have seen.

61830. PYRUS sp.

No. 752.

61831. PYRUS sp.

No. 753.

61832. PYRUS sp.

No. 754.

61833. EUCALYPTUS PAUCIFLORA Siebr. Myrtaceæ. White gum.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received November 11, 1924.

The white gum, as this eucalypt is called in Australia, attains there a height of 100 feet and a diameter of about 4 feet. It grows well in swampy lowlands, and the timber is used for general building purposes.

61834 to 61852.

From China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 21, 1924. Notes by Mr. Dorsett.

61834. CASTANEA sp. Fagaceæ. Chestnut.

No. 790. Fa Hua Ssu temple, Taitzu, Chihli. October 12, 1924. Seeds secured from trees growing on terraced, decomposed granite soil. These chestnuts are the largest and finest looking we have seen.

61835. CASTANEA sp. Fagaceæ. Chestnut.

No. 791. Fa Hua Ssu temple, Taitzu, Chihli. October 12, 1924. Seeds. These chestnuts are the ordinary run of the crop and are of average size.

61836. CORYLUS sp. Betulaceæ. Hazel.

No. 775. Shalingleang, Chihli. October 10, 1924. Plants and scions.

61837 to 61842. DIOSPYROS KAKI L. f. Diospyraceæ. Kaki.

61837. No. 771. Tailuangyuan. October 8, 1924. Scions obtained from a tree, the best we have yet seen, growing in an orchard belonging to Sun Yu. In most cases this variety bears small crops.

61838. No. 772. Tailuangyuan. October 8, 1924. Scions. This fruit, the quality of which is very good, is not more than one-half the size of the large Chinese persimmon.

61834 to 61852—Continued.

61839. No. 782. Lungtzuting Valley. October 12, 1924. Scions from a tree growing in a large orchard of mixed fruits. Though a comparatively young tree, perhaps 8 or 10 years old, this tree was full of fruit.
61840. No. 783. Lungtzuting Valley. October 12, 1924. Scions from a tree in a large orchard, the fruits of which are small and slender, reminding us very much of large acorns.
61841. No. 784. Lungtzuting Valley. October 12, 1924. Scions from young trees of what is supposed to be the "lantern" persimmon.
61842. No. 785. Lungtzuting Valley. October 12, 1924. Scions from a persimmon tree, the fruits of which are small and quite slender.
61843. IRIS sp. Iridaceæ. Iris.
No. 773. October 8, 1924. Plants of a wild iris collected along a rocky terrace across the river from the Yung Lo [Ming] tomb.
61844. IRIS sp. Iridaceæ. Iris.
No. 774. October 8, 1924. Plants collected on the grounds around the Yung Lo [Ming] tomb.
61845. POPULUS TOMENTOSA Carr. Salicaceæ. Poplar.
No. 786. October 12, 1924. Scions of a graceful poplar, the trunk of which is gray; collected along the river bank between Hungmentsun and Hsiachuang.
61846. PRUNUS sp. Amygdalaceæ. Cherry.
No. 781. Fa Hua Ssu temple, near the village of Haitzu, Chihli. October 11, 1924. Scions of a cherry having the appearance and habit of *Prunus pseudocerasus*.
- 61847 to 61850. PYRUS spp. Malaceæ. Pear.
Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. Scions introduced for trial as stock plants on which to graft cultivated varieties and for use in breeding types resistant to fire blight.
61847. PYRUS sp.
No. 777. Called the "sugar pear" by the priest. A good-sized, russet pear covered with many small brown dots, containing a fair amount of juice, which is like sweetened water and is of poor flavor. The white flesh is crisp and gritty. This pear is reported to be one of the best keepers.
61848. PYRUS sp.
No. 778. A fragrant pear, small and greenish yellow, covered with numerous small brown dots. The juice is like sweetened water and the white flesh is crisp, a little gritty, and slightly woody. The quality of this pear is poor, though better than the sugar pear [S. P. I. No. 61847].
61849. PYRUS sp.
No. 779. A small to medium-sized pear, fragrant and dull greenish yellow, covered with many small brown dots. Flesh white, crisp, and gritty; juice watery and sweet.

61834 to 61852—Continued.

61850. PYRUS sp.
No. 780. Known as "Golden Handle." This pear is small to medium sized, creamy white, and covered with many small brown dots. The white flesh is gritty and coarse, and the sweet juice is only of fair quality. One of the most attractive of the five pears we photographed here, and we think this is the best pear seen here.
61851. RUBUS sp. Rosaceæ.
No. 776. Wanpochuan, Chihli. October 10, 1924. Plants.
61852. SALIX sp. Salicaceæ. Willow.
No. 787. October 12, 1924. Cuttings of a quite common, upright growing willow, collected along a river between Hungmentsun and Hsiachuang.
61853. ROSA ROULETTII Correvon. Rosaceæ. Rose.
From Chenebourg, near Geneva, Switzerland. Plants purchased from H. Correvon, Floraire Nursery. Received November 15, 1924.
A dwarf shrubby rose of the general type of *Rosa lawrenciana*, but even smaller than the latter. As grown in my garden it does not become more than 4 inches in height, and the very numerous red flowers are produced continuously from May to January if the plant is sheltered. (Correvon.)
61854. LILIUM sp. Liliaceæ. Lily.
From Peking, China. Bulbs collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 24, 1924.
No. 789. October 15, 1924. Procured in the market. (Dorsett.)
61855. JUGLANS REGIA L. Juglandaceæ. Walnut.
From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received November 13, 1924.
These walnuts, which come from Aures, are of excellent quality. The trees are very vigorous, and this strain has been propagated from seeds by the natives for centuries. (Trabut.)
61856. PYRUS sp. Malaceæ. Pear.
From Dropmore, Manitoba, Canada. Plants presented by F. L. Skinner. Received November 4, 1924.
Tait's No. 1. Introduced for pear-breeding experiments.
- 61857 to 61860. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceæ. Common wheat.
From Maison Carree, Algeria. Seeds presented by the governor general, institute of agriculture. Received November 20, 1924.
61857. No. 1. Soudan.
61858. No. 6. Soudan.
61859. No. 11. Djeghloul.
61860. No. 87. Bahatane.

61861 to 61879. TRITICUM DURUM Desf.
Poaceæ. Durum wheat.

From Rabat, Morocco. Seeds presented by the Station de Sélection et D'Essai de Semences, Rabat, through J. H. Martin, Bureau of Plant Industry. Received November 20, 1924.

61861. No. 6.	61871. No. 120.
61862. No. 8.	61872. No. 140.
61863. No. 14.	61873. No. 156.
61864. No. 16.	61874. No. 181.
61865. No. 20.	61875. No. 182.
61866. No. 22.	61876. No. 184.
61867. No. 24.	61877. No. 185.
61868. No. 46.	61878. No. 196.
61869. No. 88.	61879. No. 198.
61870. No. 110.	

61880. ACACIA sp. Mimosaceæ.

From Old Umtali, Rhodesia, Africa. Seeds presented by E. H. Greeley. Received November 21, 1924.

A flowering tree, 20 feet high, with handsome foliage, and clusters of long, white, sweet-scented flowers. (Greeley.)

61881. QUERCUS sp. Fagaceæ. Oak.

From Chihli Province, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 24, 1924.

No. 788. October 8, 1924. Acorns from a broad-leaved oak growing near the Yung Lo [Ming] tomb. (Dorsett.)

61882. ERIOBOTRYA JAPONICA (Thunb.) Lindl. Malaceæ. Loquat.

From Babson Park, Fla. Plants presented by W. D. Carrier, Polk County Avocado Nurseries. Received November 28, 1924.

A seedling loquat, of excellent quality, from a fine old tree grown in Putnam County, Fla. This tree has survived freezes since 1894, and produces large quantities of excellent fruits. (Carrier.)

61883 and 61884.

From Peking, China. Tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 26, 1924. Notes by Mr. Dorsett.

61883. COLOCASIA sp. Araceæ. Taro.

No. 794. October 17, 1924. The smallest dasheen tubers we have ever seen offered for sale, obtained from the Morrison Street Market.

61884. SAGITTARIA SAGITTIFOLIA L. Alismaceæ. Arrowhead.

No. 795. October 17, 1924. Chinese name Tzu Ku. Obtained from the market. These are very good cooked and served with a sweet sauce.

61885 to 61892.

From the island of Chiloe, Chile. Collected by Elbert E. Reed, Instituto Agrícola Bunster. Received November 19, 1924.

The island of Chiloe, which lies off the coast of Chile in latitude 42° S., is a region little known horticulturally. It is reputed to be the home of wild forms of

the true potato, as well as of *Fragaria chilensis*, the frutilla or Chilean strawberry, which is cultivated in several parts of the Andean region. This berry, which was carried to Europe from Concepcion, Chile, in 1712, has played an important part in the development, through crossing, of the cultivated strawberries of the present day.

In order to procure from Chiloe material for the use of North American plant breeders, actively engaged in the improvement of potatoes and strawberries, the Department of Agriculture arranged with Elbert Reed, horticulturist of the Instituto Agrícola Bunster at Angol, Chile, to visit the island. Mr. Reed has sent in the following collection together with his notes:

61885. FRAGARIA sp. Rosaceæ.

Strawberry.

Plants of a wild strawberry from sand banks more or less 100 feet high, near Quilan.

61886 to 61892. SOLANUM spp. Solanaceæ. Wild potato.

61886 and 61887. Tubers raised from wild potato seeds by Señor Vera, of Quilan, near Cucao.

61886. SOLANUM sp.

A hybrid between the wild and Quilian varieties.

61887. SOLANUM sp.

A wild variety.

61888. SOLANUM sp.

From a patch of ground adjoining the beach at Alpua, about 15 miles south of Cucao.

61889. SOLANUM sp.

Presented by Sr. Everardo Werner, of Puntra. Señor Werner discovered these wild potato plants in the region called Cucao, on the west coast of Chiloe, about six years ago, while searching with a large party for the passengers of a wrecked ship. He has cultivated these plants ever since.

61890 to 61892. Progeny of the wild potato, brought from Cucao by Señor Werner, showing a very distinct variation in the seedlings from the wild pistillate parent, both in the tuber and in the plants. It here loses all semblance to the wild type and appears like the ordinary cultivated potato. Señor Werner says that all three colors—red, white, and yellow—came from the seeds of one plant.

61890. SOLANUM sp.

White strain.

61891. SOLANUM sp.

Yellow strain.

61892. SOLANUM sp.

Red strain.

61893. GOSSYPIUM sp. Malvaceæ.

Cotton.

From Constantza, Rumania. Seeds presented by Kevork Boyadjian, through Richard B. Haven, American vice consul. Received December 1, 1924.

Turkish cotton which matured at Dobrodja, Rumania, where the growing season is 100 to 150 days long and usually very warm. (Haven.)

61894 and 61895. DIOSPYROS KAKI L. f.
Diospyraceæ. Kaki.

From Hananho, Chihli, China. Scions collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 29, 1924. Notes by Mr. Dorsett.

61894. No. 797. October 21, 1924. Scions obtained from a young tree known here as the "Lantern persimmon." This tree was found growing in the same orchard from which the large Chinese persimmon, Nos. 771 and 798 [S. P. I. Nos. 61837 and 61895] was obtained. If girdled, this tree produces very good and sometimes heavy crops, otherwise it appears to be shy in fruiting. Though small, the fruits are attractive.

61895. No. 798. October 21, 1924. A large Chinese persimmon from one of the best trees in the orchard. The land on which this orchard is located is composed of sandy loam and is of very good texture.

61896 to 61898.

From Peking, China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 8, 1924. Notes by Mr. Dorsett.

61896. HELIANTHUS TUBEROSUS L. Asteraceæ.
Jerusalem artichoke.

No. 1046. October 26, 1924. Tubers. The Chinese name is *Ti Kua*, meaning "ground gourd." These small tubers are mostly used in making pickles or are eaten raw.

61897. STACHYS SIEBOLDI Miquel. Menthaceæ.
Chorogi.

No. 1047. October 26, 1924. Tubers. The Chinese name is *Wai Kuo Chiang*, meaning "foreign ginger." The tubers are of average size.

61898. ZINZIBER OFFICINALE Roscoe. Zingiberaceæ.
Ginger.

No. 1050. October 27, 1924. Ginger roots purchased in the market. These had been shipped in from Fu Chen. It is reported that this is the best type of Chinese ginger.

61899. LANSIUM DOMESTICUM Jack.
Meliaceæ. Langsat.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received December 8, 1924.

The langsat or lanzon is reckoned one of the best fruits of the Malayan region.

The tree reaches 40 feet in height and has pinnate leaves composed of five to seven elliptic leaflets each 4 to 8 inches long. The fruit varies in form and character, but is generally oval or round, 1 to 2 inches in diameter, velvety and straw colored, with a thick leathery skin inclosing five segments of white, translucent, juicy, aromatic flesh, and one to three large seeds.

Two distinct kinds are known, one termed langsat and the other duku or doedoe. Choice seedling forms occur in both, and should be propagated by some vegetative means.

For previous introduction see S. P. I. No. 58382.

61900 to 61902.

From Kobe, Japan. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 8, 1924. Notes by Mr. Dorsett.

61900. CITRULLUS VULGARIS Schrad. Cucurbitaceæ.
Watermelon.

No. 214. August 9, 1924. A watermelon of average size obtained from the market. The red flesh is of very good quality.

61901 and 61902. CUCUMIS MELO L. Cucurbitaceæ.
Melon.

61901. No. 212. August 9, 1924. A greenish-yellow melon about 3 inches in diameter and 6 inches in length. The flesh, which is white and not very thick, is of fair quality.

61902. No. 213. August 9, 1924. A small, lemon-yellow melon, which is very fragrant; purchased in the market. The flesh is white, crisp, and of very good quality.

61903 to 61914.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November, 1924. Notes by Mr. Dorsett.

61903. ARISTOLOCHIA sp. Aristolochiaceæ.

No. 716. Tanchientzu. September 21, 1924. Collected along the trail.

61904. BEGONIA EVANSIANA Andrews. Begoniaceæ.

No. 651. Heichunghuan. September 17, 1924. A wild begonia with pink flowers; collected on the river bank.

61905. BENINCASA HISPIDA (Thunb.) Cogn. Cucurbitaceæ.
Wax gourd.

No. 319. Shanghai. August 16, 1924. A large gourd used in Shanghai as a vegetable and sold in the market in large quantities.

61906. BERBERIS POIRETI C. Schneid. Berberidaceæ.
Barberry.

No. 705. Ljangshalou. September 19, 1924. This barberry has small leaves and small, bright-red berries.

61907 and 61908. CAPSICUM ANNUUM L. Solanaceæ.
Red pepper.

61907. No. 495. September 3, 1924. Collected at Loutzuchang, about 4 or 5 miles east of Peking.

61908. No. 499. Peking. September 4, 1924. Purchased in the market. These bright-red peppers are of good size and much corrugated. They are used for seasoning.

61909 to 61913. CITRULLUS VULGARIS Schrad. Cucurbitaceæ.
Watermelon.

61909. No. 471. Peking. August 30, 1924. A very dark-green watermelon, weighing 22 pounds, with yellow flesh, which is sweet and of good flavor.

61910. No. 472. Peking. August 30, 1924. Purchased in the market. A watermelon striped light and dark green, weighing 14 pounds. The flesh is yellow, juicy, and sweet.

61903 to 61914—Continued.

61911. No. 473. Peking. September 1, 1924. Brought from the market by Peter Lin. This watermelon, weighing 19½ pounds, has a light-green rind and white juicy sweet flesh of good quality.

61912. No. 507. Peking. September 4, 1924. A long light-green watermelon, 15 pounds in weight with light-yellow flesh of fair quality.

61913. No. 508. Peking. September 4, 1924. A small, oval watermelon, weighing 11 pounds, with a light-green rind and bright-red flesh.

61914. CUCUMIS MELO L. Cucurbitaceæ.
Melon.

No. 601. Shihmen. Chihli. September 11, 1924. A small green melon with white flesh which is crisp and of fair flavor.

61915. CUCURBITA MOSCHATA Duchesne.
Cucurbitaceæ. Cushaw.

From Kobe, Japan. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 8, 1924.

No. 215. August 9, 1924. From the market. A good-looking squash, the outside being a deep russet brown and the flesh a deep golden yellow. (Dorsett.)

61916 to 61971.

From China. Seeds and tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November, 1924. Notes by Mr. Dorsett.

61916 and 61917. CUCURBITA MOSCHATA Duchesne. Cucurbitaceæ. Cushaw.

61916. No. 320. Shanghai. August 16, 1924. A russet-brown, long-necked squash with thick, deep-orange flesh.

61917. No. 322. Shanghai. August 16, 1924. A large, crook-necked squash from the market. The rind is smooth and of terra-cotta color; the flesh is deep orange.

61918. CUCURBITA PEPO L. Cucurbitaceæ.
Pumpkin.

No. 321. Shanghai. August 16, 1924. This rather small, oval fruit, obtained in the market, is 6 to 9 inches long and has a creamy yellow rind and yellow flesh.

61919 and 61920. DELPHINIUM GRANDIFLORUM L. Ranunculaceæ. Larkspur.

61919. No. 696. September 19, 1924. Seeds of a very attractive, deep-blue larkspur, collected at the Temple of the Three Saints, located on one of the ranges of the Western Hills, between Chianguou and Liangchakou.

61920. No. 704. September 19, 1924. A hardy larkspur with large heads of deep-purple flowers borne on spikes sometimes 12 inches or more in length, found quite abundantly on the eastern slope of the range of mountains near the village of Liangchakou.

61921. DIOSCOREA sp. Dioscoreaceæ.
Yam.

No. 492. September 3, 1924. From Loutzuchang, which is 4 or 5 miles east of Peking. These aerial tubers were obtained from vines about 15 feet in length.

61916 to 61971—Continued.

61922. GLEDITSIA HETEROPHYLLA Bunge.
Cæsalpiniaceæ. Honey locust.

No. 653. Tungchuanztzu. September 17, 1924. This shrubby plant, 6 to 15 feet in height, was found on a gravelly river bank. The leaves are small, and the broad seed pods, when ripe, and the rather large, flat seeds are mahogany brown.

61923. IRIS DICHOTOMA Pall. Iridaceæ.
Iris.

No. 650. Heilungkuan. September 17, 1924. A wild iris from rocky cliffs on the north side of the mountain about a day's journey from Toli.

61924. LONICERA sp. Caprifoliaceæ.
Honeysuckle.

No. 701. September 19, 1924. This shrub, bearing small, round, bright-red berries, was found on the east slope of the mountain near Liangchakou.

61925. MALUS sp. Malaceæ. Apple.

No. 478. Peking. September 2, 1924. These fruits, resembling crab apples, were purchased in the market; they are rather seedy, small, round, and creamy white; the flesh is pure white, crisp, and juicy, containing just enough acid to be pleasant. May prove of value to apple breeders.

61926 to 61936. PHASEOLUS spp. Fabaceæ.

61926 to 62929. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Adzuki bean.

61926. No. 603. Shihmen, Chihli. September 11, 1924. A small, black and gray bean, with a distinct white eye, from a field near the railway station.

61927. No. 672. September 18, 1924. From Precious Spring or Water Mountain, about half a day's journey from Hungmeichang. The plants are fairly vigorous, growing 18 to 24 inches high, and the seeds are a dirty creamy white.

61928. No. 702. September 19, 1924. Collected near the village of Chianguou, en route to Liangchakou; creamy white beans from the steep mountain side.

61929. No. 707. Liangchakou. September 19, 1924. This small red bean appears to be planted wherever we have been.

61930 to 61934. PHASEOLUS AUREUS Roxb. Mung bean.

61930. No. 605. Shihmen, Chihli. September 11, 1924. A small, green bean, collected in a field near the railway station. Used commonly as a green vegetable and for sprouting. It appears to do well in any kind of soil.

61931. No. 616. September 16, 1924. Small, brown beans growing in sandy loam just across the river from Toli, Chihli. The plants are about 2 feet in height and are quite vigorous.

61932. No. 617. September 16, 1924. Yellow beans collected across the river from Toli, Chihli. The plants are about 18 inches high and fairly vigorous.

61916 to 61971—Continued.

61933. No. 618. September 16, 1924. Green beans collected across the river from Toli, Chihli.
61934. No. 619. September 16, 1924. Black beans collected across the river from Toli, Chihli.
- 61935 and 61936. *PHASEOLUS VULGARIS* L. Common bean.
61935. No. 710. Liangchakou, Chihli. September 19, 1924. Red beans.
61936. No. 711. Liangchakou, Chihli. September 19, 1924. White beans.
61937. *PHYSALIS* sp. Solanaceæ. Ground cherry.
- No. 699. September 19, 1924. Pinkish yellow husk tomato collected near the village of Taanshan. May prove of value to plant breeders.
61938. *PTEROCARYA STENOPTERA* DC. Juglandaceæ. Chinese wingnut.
- No. 295½. Shanghai. August 15, 1924. Collected from the Bubbling Well cemetery, a short distance from the grave of Frank N. Meyer. The long, pendulous catkins make this tree quite attractive.
61939. *RHAMNUS GLOBOSA* Bunge. Rhamnaceæ. Buckthorn.
- No. 697. September 19, 1924. From the west side of one of the ranges of the Western Hills, opposite the village of Chianglou. This shrubby, thorny plant, which may be ornamental and may also prove to be a good hedge plant, was found growing in very exposed places.
- 61940 to 61952. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.
- 61940 to 61943. Peking. September 4, 1924. From plants growing in the Peking Botanical Garden.
61940. No. 503. Originally from Chelin. The plants are 2 feet or more high and quite vigorous.
61941. No. 504. Large, green soy beans from vines about 3 feet in height.
61942. No. 505. Originally from Shansi. Large, green soy beans from vines about 3 feet in height.
61943. No. 506. Originally from Japan. These soy beans are large and green; the vines are about 3 feet high.
61944. No. 568. September 9, 1924. an almost round, creamy yellow soy bean collected between Anshan and Kepo, Chihli, 75 to 100 miles east of Peking.
61945. No. 569. September 9, 1924. Collected between Anshan and Kepo, Chihli. A creamy soy bean somewhat larger than No. 568 [S. P. I. No. 61944].
61946. No. 570. September 9, 1924. Brown soy beans mottled with black, collected between Kepo and Wankuankechuang. Not nearly so common as the creamy yellow type, No. 568 [S. P. I. No. 61944].
61947. No. 586. September 10, 1924. An almost round, creamy yellow soy bean, with a brown eye, collected between Kepo and Toukoankechuan.

61916 to 61971—Continued.

61948. No. 587. September 10, 1924. Brown and black striped soy beans, collected between Toukoankechuan and Kepo, Chihli.
61949. No. 604. Shihmen, Chihli. September 11, 1924. This black-seeded soy bean, from a field near the railway station, is only seen occasionally.
61950. No. 606. Shihmen, Chihli. September 11, 1924. This soy bean, mottled black and brown, is from a field near the railway station.
61951. No. 708. Liangchakou, Chihli. September 19, 1924. Seeds of a soy bean, rather small, oval, and creamy white, from strong, vigorous vines.
61952. No. 718. Mentoukou. September 21, 1924. From a very rocky area.
61953. *SOLANUM MELONGENA* L. Solanaceæ. Eggplant.
- No. 509. Peking. September 4, 1924. An attractive eggplant 5 inches in diameter and 4 inches in length.
61954. *SPIRAEA DASYANTHA* Bunge. Rosaceæ. Spirea.
- No. 670. September 19, 1924. A very free-flowering, rather dwarf plant found growing on Precious Spring or Water Mountain, Chihli.
61955. *VIBURNUM* sp. Caprifoliaceæ.
- No. 700. September 19, 1924. A shrub growing on the mountain side, near Liangchakou. The seed berries or fruits occur two or three in a cluster and are at first red, changing to black when ripe.
- 61956 to 61958. *VIGNA SESQUIPEDALIS* (L.) Fruwirth. Fabaceæ. Yard Long bean.
- Liangchakou, Chihli. September 21, 1924. Collected in a field.
61956. No. 728. Light buff.
61957. No. 728 a. Black.
61958. No. 728 b. Reddish brown.
- 61959 to 61965. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.
61959. No. 588. Near Kepo, Chihli. September 10, 1924. A creamy white cowpea with a purple eye.
61960. No. 591. Toukoankechuan, Chihli. September 10, 1924. Cowpeas tinged with greenish pink.
61961. No. 602. Shihmen, Chihli. September 11, 1924. A red-seeded cowpea collected in a field near the railway station.
61962. No. 607. Shihmen, Chihli. September 11, 1924. Cowpeas speckled dirty gray and reddish brown, collected near the railway station.
61963. No. 620. September 16, 1924. Purple-eyed, white cowpeas collected in a river bottom field between Toli and Koutoutsun, Chihli.
61964. No. 621. September 16, 1924. Red cowpeas from a river bottom field between Toli and Koutoutsun, Chihli.
61965. No. 622. Toli, Chihli. September 16, 1924. Pink or brick-red cowpeas from a gravelly clay hill.

61916 to 61971—Continued.

61966 to 61970. *ZEA MAYS* L. Poaceae.

Corn.

61966. No. 571. September 9, 1924. Obtained from the fields between Anshan and Kepo, Chihli. One of the representatives of the average corn of this section.

61967. No. 589. Talitientzu. September 10, 1924. Collected in a field. One of the representatives of the average corn of this section.

61968. No. 675. September 18, 1924. Collected near the village of Taanshan.

61969. No. 676. September 18, 1924. Collected near Hungmeichang. This corn is the yellow flint and has one ear to the stalk. It is evident that corn is one of the most important crops in this mountain country.

61970. No. 709. Liangchakou, Chihli. September 19, 1924. One of the representatives of the average corn of this section.

61971. *ZINNIA MULTIFLORA* L. Asteraceae.

No. 654. September 17, 1924. Collected between Shatsui and Kanho. This rather attractive plant, with terra cotta-colored flowers, appears to be indigenous. May prove of value to plant breeders.

61972 to 61996.

From Elstree, Herts, England. Seeds presented by Hon. Vicary Gibbs, Aldenham House, through David Fairchild, Bureau of Plant Industry. Received November 12, 1924. Notes by Doctor Fairchild.

61972. *ARONIA ARBUTIFOLIA* (L.) Pers.(*Pyrus arbutifolia* L. f.). Malaceae.

Red chokeberry.

No. 12. Var. *grandiflora*. A large-flowered form with delicate pink, almost translucent fruits.

61973. *BERBERIS BRACHYPODA* Maxim. Berberidaceae.

Barberry.

Nos. 1 and 2. An attractive shrub from western China, 4 to 7 feet high with ovate, serrate leaves, long slender panicles of yellow flowers, and scarlet fruits often half an inch long.

For previous introduction see S. P. I. No. 58097.

61974. *BERBERIS GAGNEPAINI* C. Schneid. Berberidaceae.

Barberry.

No. 3. An evergreen Chinese shrub 3 to 6 feet high, with leathery leaves, spiny on the margins, and delicate yellow flowers on red pedicels. The ellipsoid berries are dark purple.

For previous introduction see S. P. I. No. 58138.

61975. *CORIARIA TERMINALIS* Hemsl. Coriariaceae.

No. 4. A handsome shrub of very graceful habit, with translucent golden yellow fruits which hang in long racemes from the twigs.

61976. *COTONEASTER FRIGIDA* Wall. Malaceae.

No. 6. Var. *vicarii*. A variety named after Mr. Gibbs, with small, very brilliant red fruits; one of the handsomest of the genus.

For previous introduction see S. P. I. No. 56450.

61972 to 61996—Continued.

61977. *COTONEASTER SALICIFOLIA RUGOSA* (E. Pritz.) Rehd. and Wils. Malaceae.

No. 5. A willow-leaved cotoneaster of very distinctive appearance with bright-scarlet fruits of small size and delicate appearance.

For previous introduction see S. P. I. No. 58610.

61978. *CRATAEGUS OXYACANTHA* L. Malaceae.

English hawthorn.

No. 7. Var. *gireoudii*. A remarkable variegated variety which Mr. Gibbs has proved will come true to seed.

61979. *DIPTERONIA SINENSIS* Oliver. Aceraceae.

No. 8. A monotypic genus from China closely related to the maples. An attractive tree with conspicuous papery winged fruits borne in the autumn. It reminds one somewhat of the bladder-nut tree (*Ptelea trifoliata*).

61980 to 61982. *EUONYMUS* spp. Celastraceae.61980. *EUONYMUS EUROPAEUS* L.

Spindle tree.

No. 9. Var. *aldenhamensis*. A beautiful variety selected by Mr. Gibbs and named in honor of his estate. The delicate pink color of its fruit is particularly attractive.

61981. *EUONYMUS HAMILTONIANUS* Wall.

No. 11. A large Himalayan shrub which under favorable circumstances becomes a moderate-sized tree, 30 to 35 feet high, with a short, straight trunk 4 to 5 feet in girth. The clusters of 15 to 20 greenish-white flowers are followed by yellow capsules, the seeds of which are entirely surrounded by a scarlet aril. The fruit ripens from August onward. The leaves are brilliantly colored in autumn.

For previous introduction see S. P. I. No. 57281.

61982. *EUONYMUS YEDOENSIS* Koehne.

Yeddo euonymus.

No. 10. A particularly attractive species from Japan with more than usually beautiful pink fruits.

For previous introduction see S. P. I. No. 53702.

61983. *MALUS THEIFERA* Rehder. Malaceae.

Tea crab.

No. 19. A small, stiff-branched tree, native to China, which bears fragrant white flowers and globose, yellow fruits with red cheeks.

For previous introduction see S. P. I. No. 54091.

61984. *PSEDERA HIMALAYANA* (Royle) C. Schneid. Vitaceae.

No. 27. Var. *rubrifolia*. A semiwoody, Himalayan climber, with handsome trifoliate leaves which become brilliant red in autumn.

61985. *PIRUS SALICIFOLIA* Pall. Malaceae.

Pear.

No. 15. Var. *pendula*. An ornamental, pendulous variety of the willow-leaved pear, which is a small, often spiny tree, native to Asia Minor, with corymbs of white flowers and round, yellowish green fruits.

61972 to 61996—Continued.

61986. *ROSA DAVIDI* Crepin. Rosaceæ. **Rose.**

No. 20. A pink-flowered, orange-fruited rose 3 to 18 feet high, native to western Szechwan, China, at altitudes of 4,000 to 9,000 feet. It is the nearest Chinese relative of *Rosa macrophylla* of the western Himalayas.

For previous introduction see S. P. I. No. 58617.

61987 to 61992. *SORBUS* spp. Malaceæ.

61987. *SORBUS ARIA* × *AUCUPARIA*.

No. 14. A hybrid bearing unusually large and attractive bright-red fruits.

61988 and 61989. *SORBUS AUCUPARIA* L. (*Pyrus aucuparia* Ehrh.)
European mountain ash.

61988. Var. *conradinae*.

No. 13. One of the Chinese forms which may prove unusually hardy. The berries are small but very bright red.

61989. Var. *subarachnoidea*.

No. 28. A variety with waxy white berries which stand out in striking contrast to the green leaves; this is rare even in England.

61990. *SORBUS FOLIGNERI* (C. Schneid.) Rehder (*Pyrus foligneri* Lévillé).

No. 16. A handsome Chinese tree, with gracefully spreading branches and oval leaves, dark green above and white-hairy beneath. The ovoid, red berries are about half an inch long.

61991. *SORBUS SCALARIS* Koehne.

No. 17. A large shrub, one of E. H. Wilson's introductions from China. The tiny red fruits on long delicate peduncles are very attractive.

61992. *SORBUS VILMORINI* C. Schneid.

No. 18. A handsome shrub from Yunnan, China. The graceful, finely cut foliage, white or somewhat pinkish flowers, and bright, translucent, rosy-red fruits make an attractive ornamental.

61993. *STRANVAESIA DAVIDIANA* UNDULATA (Decaisne) Rehd. and Wils. Malaceæ.

No. 22. A low, spreading, evergreen shrub, or occasionally a small tree, native to western China. The leathery, narrowly oval leaves are glossy green and 1 to 3 inches long, and the white flowers, about half an inch across, appear in terminal clusters. Its greatest charm as an ornamental is the abundant crop of bright-red fruits.

For previous introduction see S. P. I. No. 58621.

61994. *STYRAX DASYANTHUM* Perkins. **Snowbell.**

No. 23. A deciduous shrub or small tree, native to central China, with broadly oval or obovate, pointed leaves 2 to 4 inches in length, and white flowers, one-half to three-fourths of an inch long, produced during July in slender terminal racemes. It has proved hardy in the vicinity of London, England.

61995. *VIBURNUM OVATIFOLIUM* Rehder. **Caprifoliaceæ.**

No. 25. A very attractive viburnum from the mountainous districts of western Hupeh, China. The ovoid berries are bright red.

For previous introduction see S. P. I. No. 53749.

61972 to 61996—Continued.

61996. *VITIS* sp. Vitaceæ. **Grape.**

No. 26. This is called "Bellair's vine," from the name of the man on whose place Mr. Gibbs found it. It has small bunches of grapes like those of the fox grape, and the foliage becomes bright colored in the autumn.

61997. *VIGNA SINENSIS* (Torner) Savi. **Cowpea.**

From Heilungkuan, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 7, 1924.

No. 673. September 18, 1924. A red variety of cowpea from a terraced area. (Dorsett.)

61998. *ORYZA SATIVA* L. Poaceæ. **Rice.**

From Changchiashihmen, Chihli, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November 8, 1924.

No. 593. September 11, 1924. A well-seeded, upland rice 18 inches to 2 feet high. (Dorsett.)

61999. *AVENA SATIVA* L. Poaceæ. **Oats.**

From Rieti, Italy. Seeds presented by N. Strampelli, director, R. Stazione Sperimentale di Granicoltura. Received November 11, 1924.

A strain grown locally at Rieti.

62000. *ZEA MAYS* L. Poaceæ. **Corn.**

From Sydney, New South Wales. Seeds presented by E. M. Lawton, American consul general. Received November 14, 1924.

Coodra Vale. This seed corn has been supplied by an important ranch in New South Wales; according to press reports this variety has produced as high as 142 bushels to the acre. (Lawton.)

62001. *DAUCUS CAROTA* L. Apiaceæ. **Carrot.**

From Auckland, New Zealand. Seeds presented by O'Leary Bros. & Downs, at the request of H. R. Wright. Received November 19, 1924.

Yates Improved White. A field carrot extensively grown in New Zealand for stock. This variety is a heavy yielder; about two-thirds of the root grows above the surface, making it easy to lift. (Wright.)

62002. *TRITICUM DURUM* Desf. Poaceæ. **Durum wheat.**

From Potchefstroom, Union of South Africa. Seeds presented by the School of Agriculture. Received November 25, 1924.

Var. *Great Scott*.

62003 and 62004.

From Suifu, Szechwan, China. Seeds presented by David C. Graham, Suifu, through W. deC. Ravenel, United States National Museum. Received November 26, 1924.

Samples of cereals which accompanied a consignment of specimens sent to the United States National Museum. (Ravenel.)

62003. *HORDEUM VULGARE COELESTE*. Poaceæ. **Six-rowed barley.**

62004. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. **Common wheat.**

62005. DIOSPYROS sp. Diospyraceæ.
Persimmon.

From Salisbury, Rhodesia, Africa. Seeds presented by Dr. F. Eyles, botanist and mycologist, Rhodesian Department of Agriculture. Received November 13, 1924.

The ripe fruit of the "Rhodesian persimmon" is round, about $1\frac{1}{4}$ inches in diameter, brown, soft, and of pleasant flavor, and usually contains four seeds. The tree, which grows in southern Rhodesia at an altitude of 3,500 feet or less, is gnarled, with blackish bark, and becomes only 25 to 35 feet in height. The native name is *M'chenje*. According to the natives it fruits only in alternate years. (Eyles.)

62006. BYRSONIMA SPICATA (Cav.) DC.
Malpighiaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, Botanic Gardens. Received November 24, 1924.

A tropical tree 30 to 40 feet high, known in Dominica as *Bois Tan*. The narrow leaves are shining green above and rusty brown beneath, and the yellow flowers, followed by acid, edible fruits of the same color, make the tree a showy ornamental. The tough, light wood is useful for general construction, and the bark is a source of tannin.

For previous introduction see S. P. I. No. 58370.

62007. DAVIDIA INVOLUCRATA Baill.
Cornaceæ. Dove tree.

From Paris, France. Seeds presented by A. Gerard. Received November 18, 1924.

The dove tree, as this is sometimes called, is a native of the mountainous forests of central and western China, and was first introduced into western cultivation by E. H. Wilson of the Arnold Arboretum, who gives an account of his search for this plant in the Country Gentleman for August, 1926. After a number of disappointments Mr. Wilson finally discovered a number of trees in the neighborhood of Ichang, Hupeh, China, and collected a quantity of seeds.

In its native home this tree becomes 75 feet high, with a shapely pyramidal crown. When in bloom the tree is unusually striking because of the two or three large, snow-white bracts which subtend each flower. These bracts are unequal in size, the largest being 4 to 8 inches long and 2 to 4 inches wide. The bright-green, oval, sharply toothed leaves are 3 to 6 inches long.

62008. EUCRYPHIA PINNATIFOLIA Gay.
Eucryphiaceæ.

From Kew, Surrey, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received November 24, 1924.

An evergreen shrub from 3 to 10 feet high, which is particularly attractive because of its large, white flowers, $2\frac{1}{2}$ to 3 inches across, not unlike a large, single rose with a tuft of stamens in the center. It does best in a rather moist situation protected from the strongest rays of the sun.

For previous introduction see S. P. I. No. 49271.

62009 and 62010.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received November 26, 1924.

62009 to 62010—Continued.

62009. ARTOCARPUS sp. Moraceæ.

No. 1. October 1, 1924. *Hung Kwai Muk*. Collected by G. W. Groff from a tree on the campus of the Canton Christian College. A very ornamental tree, 5 meters (approximately 16 feet) high, with a spreading habit and glossy foliage. The tree bears abundantly, round, greenish yellow-brown fruits about the size of a large plum, with a pleasant acid flavor. The fruits can be made into a jam which resembles cherry preserves in color and flavor. Due to a certain roughness of the skin, which is not evident to the eye, the fruit is unfortunately a little difficult to eat out of hand. (McClure.)

62010. GORDONIA AXILLARIS (Roxb.) Szyszyl. Theaceæ.

No. 2. October 9, 1924. Collected on Hongkong Island in a wooded ravine at 300 meters (approximately 1,000 feet) altitude in decomposed granite soil. A beautiful shrub, 2 to 4 meters (approximately 7 to 14 feet) in height, with thick, glossy foliage and delicate, ephemeral, white flowers 3 to 4 centimeters (approximately 1 to 2 inches) in diameter. (McClure.)

62011. AMYGDALUS COMMUNIS L. (Prunus amygdalus Stokes). Amygdalaceæ.
Bitter almond.

From Serai, Bagdad, Mesopotamia. Seeds presented by G. S. Cameron, officiating director of agriculture. Received December 1, 1924.

Seeds of the bitter almond, introduced for comparison and cultural tests.

62012. DEUTZIA LONGIFOLIA Franch. Hydrangeaceæ.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received December 1, 1924.

Among the many attractive species of Deutzia, this is considered to be one of the handsomest, according to the Gardeners' Chronicle (ser. 3, vol. 51). It comes from western China and is a shrub about 6 feet high, with narrow leaves, whitish below, and rosy flowers, about an inch across, produced in rounded clusters 2 to 3 inches in diameter.

62013. CHAMAEDOREA ELEGANS Mart. Phoenicaceæ. Pacayito.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received December 4, 1924.

The pacayito, a handsome dwarf palm native to Mexico and Central America, is an excellent ornamental house plant, and will tolerate shade to a greater extent than many other plants. It often comes into flower when not over a foot high, and the deep-green, finely pinnate, graceful leaves are very attractive. Excessive atmospheric aridity, such as frequently prevails in artificially heated rooms, is likely to prove unfavorable to this palm.

62014. RUBUS GLAUCUS Benth. Rosaceæ. Andean raspberry.

From Ibarra, Ecuador. Seeds presented by Sr. José Felix Tamayo. Received December 3, 1924.

The Andean raspberry is half climbing in habit and a vigorous grower. It covers arbors and fences or can be trained into bush form, making a clump about 10 feet broad and high. The stems are round and cov-

ered with a thick whitish bloom; the leaves are trifoliate, with the leaflets ovate-lanceolate, long-acuminate, serrate, about 3 inches in length, light green above and whitish below. The flowers are produced in terminal racemes sometimes a foot in length; they are white and about an inch in diameter. The fruits are oblong-oval, often an inch long, and composed of a large number of drupelets crowded closely together. The seeds are not so large as to be troublesome in the mouth, nor are they hard; the flavor resembles that of certain northern raspberries, being rich, aromatic, and very pleasant. Although excellent when eaten with sugar and cream, the fruit is more commonly used in Ecuador to prepare a sweet conserve or the sirup made in Otavalo called *jarone de mora*, from which an excellent refresco is made.

The plant grows in soils of various types, from clay to light sandy loam. It will probably require intelligent pruning to make it fruit abundantly. I believe it possesses great possibilities when cultivated in the southern and southwestern United States, since its fruits are larger than any of the raspberries we now grow and are of excellent quality. (Wilson Popenoe, Bureau of Plant Industry.)

For previous introduction see S. P. I. No. 52717.

62015 and 62016. PIROCYDONIA spp. Malaceæ.

From Ille et Vilaine, France. Plants presented by Lucien Daniel. Received December 11, 1924. Notes by Mr. Daniel.

Graft hybrids between the pear and quince.

62015. PIROCYDONIA DANIELI Winkler.

A small shrub, resembling the quince in general habit, cultivated in the gardens of the Faculté des Sciences, at Rennes, France. This graft hybrid arose from an old pear grafted on quince stock. These seedlings are grafted on pear stock.

62016. PIROCYDONIA WINKLERI Daniel.

One of the pear grafts on the old quinces in the garden of St. Vincent College gave rise to a sucker of distinct character; this was called *Pirocydonia winkleri* by Mr. Daniel. The shoots and leaves are pubescent, unlike those of the pear. The leaves are short stemmed like the quince, but are lanceolate like the pear. A very peculiar thing about this hybrid is that it had its origin below the point of union of the graft and stock.

62017 and 62018. CASUARINA spp. Casuarinaceæ.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department, through C. V. Piper, Bureau of Plant Industry. Received December 2, 1924.

62017. CASUARINA STRICTA Ait.

This tree, commonly cultivated in California, but more rare in Florida, is a fairly hardy species making a low, often shrubby, growth. It is conspicuous on account of its very thick, often pendulous branches and very big cones. In appearance it is not so elegant as some of the other casuarina, but it is very striking and is also of some economic value. The branchlets are said to be a favorite forage of Australian cattle. The wood is especially valuable for shingles and posts.

62017 and 62018—Continued.

62018. CASUARINA SUBEROSA Otto and Dietr.

A tree 30 to 40 feet tall, quite similar to *Casuarina equisetifolia*, with smooth, slender branchlets. It is considered a valuable fodder tree in the interior districts of Australia which are subject to drought. The wood is of great beauty for cabinetwork, but should be used only in veneers, as it is apt to split in drying.

For previous introduction see S. P. I. No. 56564.

62019. TROPAEOLUM SPECIOSUM Poepp. and Endl. Tropæolaceæ.

Vermilion nasturtium.

From Elstree, Herts, England. Seeds presented by Hon. Vicary Gibbs, Aldenham House, through David Fairchild, Bureau of Plant Industry. Received November 12, 1924.

No. 24. This is the most attractive little vine which I have seen in Great Britain. Its brilliant scarlet blooms and delicate foliage make it a unique ornamental. (Fairchild.)

62020 and 62021. JASMINUM spp. Oleaceæ.

From Nogent sur Marne, Seine, France. Presented by the Directeur de l'Institut National d'Agronomie Coloniale. Received December 16, 1924.

62020. JASMINUM FRUTICANS L. Jasmine.

A half-evergreen, shrubby jasmine from the Mediterranean region, with a dense mass of slender, erect stems 3 to 5 feet high, and smooth, deep-green leaflets. The fragrant yellow flowers are produced in early summer, usually in threes or fives at the ends of short twigs, and the round, shining-black fruits are the size of peas.

62021. JASMINUM PRIMULINUM Hemsl. Primrose jasmine.

An evergreen, rambling shrub, 6 to 10 feet high, native to western China. The dark, glossy green leaflets forming a background for the fragrant bright-yellow flowers make the shrub very handsome in spring and early summer.

62022 to 62025.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens, through David Fairchild, Bureau of Plant Industry. Received December 12, 1924.

62022. DAVIDIA INVOLUCRATA VILMORINIANA (Dode) Hemsl. Cornaceæ. Dove tree.

A handsome tree from western China which, according to Horticulture (vol. 10, p. 433), becomes 60 to 70 feet in height; in habit and foliage it resembles a linden. The bright-green, oval leaves 3 to 6 inches long are sharply toothed and slender stalked, and the globular heads of small flowers, borne on slender nodding stalks about 2 inches long, appear in May and are made unusually striking by the two or three large bracts. These bracts are of unequal size, the largest being from 4 to 7 inches long and 2 to 4 inches broad.

For previous introduction see S. P. I. No. 55913.

62022 to 62025—Continued.

62023. *ERICA* ARBOREA ALPINA Dieck.
Ericaceæ. Heath.

An evergreen bushy heath which is native in the mountainous region of Cuenca, Spain, and has proved hardy at the Royal Botanic Gardens, Kew, England. The dull-white flowers are produced in stiff, pyramidal clusters, but the chief beauty of the plant lies in the rich, cheerful green color of the foliage, which, in England, lasts throughout the winter.

62024. *PLATANUS ACERIFOLIA* Willd. Platanaceæ. Plane tree.

The London plane, of garden origin, is a tree up to 100 feet in height and is supposed to be a hybrid between *Platanus orientalis* and *P. occidentalis*. In characters it is intermediate between the two. It resembles the American plane in foliage and is of more pyramidal habit than the European species.

62025. \times *QUERCUS LUCOMBEANA* Sweet. Fagaceæ. Oak.

A handsome, sturdy oak, a hybrid between *Quercus suber* and *Q. cerris*. It produces fertile acorns, from which have been raised numerous seedling forms of widely varying characters.

62026. *MALUS SIKKIMENSIS* (Hook. f.) Koehne (*Pyrus sikkimensis* Hook. f.). Malaceæ. Sikkim crab.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens, through David Fairchild, Bureau of Plant Industry. Received December 12, 1924.

The Sikkim crab is a small tree which grows wild in the interior of Sikkim, India, at altitudes up to 10,000 feet. The narrowly oval leaves are very woolly beneath, and the white flowers, rosy in the bud, are about an inch across and are borne very freely in 4 to 8 flowered clusters. The pear-shaped fruits are dark red with paler dots and are about half an inch wide.

For previous introduction see S. P. I. No. 58491.

62027 to 62029.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received November 17, 1924.

62027 and 62028. *BOMAREA* spp. Amaryllidaceæ.

62027. *BOMAREA CALDASII* (H. B. K.) Herbert.

A twining plant of the amaryllis family, native to the Andes of Peru. The thin, spreading leaves are 3 to 6 inches long, and the flowers, orange-yellow with crimson spots, are about an inch long and borne in many-flowered pendulous clusters.

62028. *BOMAREA CARDERI* Masters.

This Colombian species is the most beautiful of the entire genus, according to J. N. Rose, of the United States National Museum. The broadly oblong leaves are 4 to 6 inches long, and the pale-pink flowers, spotted with brown near the top of the perianth, are in large clusters about a foot long.

62029. *PASSIFLORA HERBERTIANA* Ker. Passifloraceæ.

Many of the passion flowers are charming ornamentals. This Australian species is a tall climber with 3-lobed, heart-shaped leaves and white flowers.

62030. *DAVIDIA INVOLUCRATA* VILMORINIANA (Dode) Hemsl. Cornaceæ. Dove tree.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered October, 1924.

A handsome, hardy Chinese tree of pyramidal habit, differing from the typical form in leaf characters, and perhaps less winter hardy. The white floral bracts make a striking contrast with the bright-green foliage.

62031 to 62059.

From Montevideo, Uruguay. Seeds presented by Juan R. Piñeyro, secretary, Consejo Directivo Federación Rural. Received November 24, 1924.

62031. *AGROSTIS MONTEVIDENSIS* Spreng. Poaceæ. Grass.

A caespitose, perennial Uruguayan grass, with slender leaves up to a foot in length.

62032. *ANDROPOGON LATERALIS INCANUS* (Hack.) Henr. Poaceæ. Grass.

An erect perennial grass, up to 7 feet in height, with thick, fibrous rhizomes and hard, narrow leaves. Native to Uruguay.

62033. *ANDROPOGON SACCHAROIDES* Swartz. Poaceæ. Grass.

An erect, or ascending perennial grass, with cylindrical canes and narrow, flat leaves prolonged to a fine point. It is very variable in character and is distributed throughout tropical and subtropical America.

62034. *BOUTELOUA MEGAPOTAMICA* (Spreng.) Kuntze. Poaceæ. Grass.

An erect, caespitose perennial grass, with narrow, spikelike panicles.

62035. *BROMUS WILLDENOWII* Kunth. Poaceæ. Grass.

An annual or biennial grass, 1 to 2 feet high, said to be good for forage.

62036. *CALAMAGROSTIS MONTEVIDENSIS* Nees. Poaceæ. Grass.

A perennial erect grass, with woody rhizomes and straight, unbranched canes, 1 to 2 feet high. The handsome, reddish violet panicles are 6 to 8 inches long. Native to Uruguay.

62037. *CAPRIOLA DACTYLON* (L.) Kuntze (*Cynodon dactylon* Pers.). Poaceæ. Bermuda grass.

Introduced for special comparison tests.

62038. *CHAETOCILOA ONURUS* (Griseb.) Scribn. and Merr. (*Setaria onurus* Griseb.). Poaceæ. Grass.

A slender-stemmed grass, 1 to 4 feet high, with a creeping root and linear leaves. Native to tropical America.

62039 to 62042. *CHLORIS* spp. Poaceæ. Grass.

62039. *CHLORIS CANTERAI* Arech.

An erect perennial, Uruguayan grass, with somewhat bulbous rhizomes, erect canes 2 to 3 feet high, and narrow leaves.

62040. *CHLORIS CARABAEA* Spreng.

An annual, erect, leafy grass, native to the West Indies, with linear, flat leaves about a foot high.

62031 to 62059—Continued.

62041. *CHLORIS CILIATA* Swartz.

A perennial grass with erect stems 10 to 20 inches high. Native to Uruguay.

62042. *CHLORIS ULIGINOSA* Hack.

An erect, probably annual, grass about a foot high, with rigid linear leaves. Native to Uruguay.

62043. *ERIOCHLOA PUNCTATA* (L.) Hamilt. Poaceæ. Grass.

A perennial grass with erect stems, about 4 feet high; distributed throughout tropical and subtropical America. Grows usually in damp places and is said to be good forage.

62044. *MANISURIS SELLOANA* (Hack.) Kuntze. Poaceæ. Grass.

A cespitose suberect grass, common in Uruguay. The slender canes are about a foot high.

62045. *PANICUM BERGI* Arech. Poaceæ. Grass.

A rather densely cespitose grass, 1 to 2 feet high, with a bulbous rhizome and very narrow leaves. Native to Uruguay.

62046 to 62052. *PASPALUM* spp. Poaceæ. Grass.62046. *PASPALUM BARBIGERUM* Kunth.

A smooth, cespitose grass, native to South America, with stiff, erect culms 20 to 40 inches high.

62047. *PASPALUM DILATATUM* Poir.

This grass has long been introduced in the Southern States, where it is widely distributed. It is a valuable grass for pasturage, particularly on rich land, and not infrequently is cut for hay. It goes very commonly under the name of Dallis grass but is sometimes called water grass and not infrequently simply paspalum. The grass is a native of Argentina, but is now extensively cultivated in Australia, New Zealand, South Africa, and in general throughout the Tropics. (C. V. Piper, Bureau of Plant Industry.)

62048. *PASPALUM LARRANAGAI* Arech.

A hardy grass, 5 or 6 feet in height, much relished by stock; good for growing in moist land.

62049. *PASPALUM NOTATUM* Fluegge.

A perennial grass which has shown promise as a pasture grass in the southern United States; now introduced for further testing in that region.

62050. *PASPALUM Plicatulum* Michx.

An upright, cespitose, perennial Uruguayan grass, about 3 feet high.

62051. *PASPALUM PROLIFERUM* Arech.

A stoloniferous, cespitose, perennial grass with numerous, slender culms and very narrow leaves. Native to Uruguay, and grows in sandy places.

62052. *PASPALUM* sp.62053. *SPOROBOLUS BERTEROANUS* (Trin.) Hitchc. and Chase. Poaceæ. Grass.

An annual, erect, bunch grass, with long, slender, spikelike panicles.

62031 to 62059—Continued.

62054. *STENOTAPHRUM SECUNDATUM* (Walt.) Kuntze. Poaceæ. Grass.

A broad-leaved grass, extensively employed in Rio de Janeiro as a lawn grass.

62055 to 62058. *STIPA* spp. Poaceæ. Grass.62055. *STIPA CHARRUANA* Arech.

A perennial, slender-stemmed, Uruguayan grass with woody rhizomes and erect culms, about 2 feet high.

62056. *STIPA HYALINA* Nees.

The somewhat bulbous rhizomes of this South American perennial grass send up rather woody culms about 2 feet high with very narrow leaves.

62057. *STIPA PAPPOSA* Nees.

A perennial Uruguayan grass of cespitose habit, with a fibrous rhizome, and slender culms about 20 inches high.

62058. *STIPA SETIGERA* Presl.

A perennial subcespitos grass, about 20 inches high. Native to southern South America.

62059. *TRIODIA BRASILIENSIS* (Nees) Lindm. Poaceæ. Grass.

An erect, tufted perennial grass, native to Brazil, with flat leaves.

62060 to 62073.

From Argentina. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received November 25, 1924.

62060. *ANDROPOGON CONSANGUINEUS* Kunth. Poaceæ. Grass.

No. 18. Near Teniente Origone. A slender-stemmed grass, 6 to 20 inches in height, native to southern South America.

62061. *ANDROPOGON SACCHAROIDES* Swartz. Poaceæ. Grass.

No. 20. Teniente Origone. A rather coarse, perennial grass, native to tropical America, with stems 1 to 3 feet high and attractive dense, silvery panicles.

62062. *ARISTIDA* sp. Poaceæ. Grass.

No. 11. Near Choele Choel.

62063. *ARISTIDA* sp. Poaceæ. Grass.

Near Teniente Origone.

62064. *BROMUS UNIOLOIDES* (Willd.) H. B. K. Poaceæ. Rescue grass.

No. 7. Puerto Madryn. An annual or biennial grass, 1 to 2 feet high, native to South America; it has been cultivated occasionally in the Southern States for winter forage.

62065. *BROMUS* sp. Poaceæ. Grass.

Near Teniente Origone.

62066. *CHLORIS ARGENTINA* (Hack.) Lillo and Parodi. Poaceæ. Grass.

No. 19. Teniente Origone. An erect, perennial grass, 1 to 3 feet high, native to sandy places in Argentina.

62067. *HORDEUM MURINUM* L. Poaceæ. Grass.

No. 10. Near Puerto Madryn. An annual European grass, a foot or more in height, with numerous rhizomes, and flat leaves about 6 inches long.

62060 to 62073—Continued.

62068. *POA LANUGINOSA* Poir. Poaceæ.
Grass.

No. 13. Near Puerto Madryn. A perennial grass, 1 to 2 feet in height, with very narrow leaves and erect spikes about 4 inches long. Native to southern South America.

62069. *SPOROBOLUS RIGENS* (Trin.) E. Desv. Poaceæ. Grass.

No. 8. Puerto Madryn. A perennial grass, with stiff upright, leathery leaves, and large whitish panicles. Native to Chile.

62070 to 62073. *STIPA* spp. Poaceæ.
Grass.

62070. *STIPA CHUBUTENSIS* Speg.

No. 2. Puerto Madryn. A perennial, cespitose grass which, according to Spegazzini (Anales del Museo Nacional de Montevideo, vol. 4) grows in rocky fields in Chubut, Argentina, attaining a height of about 8 inches.

62071. *STIPA HUMILIS* Brot.

No. 4. Puerto Madryn; No. 5. Near Puerto Madryn; No. 12. Near Chubut; No. 13. Near Choele Choele.

According to Spegazzini (Anales del Museo Nacional de Montevideo, vol. 4) this is a perennial grass of densely cespitose habit, with rigid leaves up to a foot high. Native to rocky situations in southern Argentina.

62072. *STIPA HYPOGONA* Hack.

No. 1. Puerto Madryn. A perennial grass, with erect, terete culms about a foot high. Native to Argentina.

62073. *STIPA NEAEI* Nees.

Nos. 6 and 9. Puerto Madryn. A perennial grass, native to arid, stony places in southern Argentina, which is described (Spegazzini, Anales del Museo Nacional de Montevideo, vol. 4) as erect or ascending, with culms up to 4 feet in height, rigid, sedgelike leaves, and purplish glumes.

62074. *PYRACANTHA CRENULATA* (Don) Roemer. Malaceæ. Firethorn.

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received November 10, 1923. Numbered October, 1924.

Var. *rogersiana*. A rapid-growing Himalayan shrub which produces an abundance of white flowers in early summer; these are succeeded by a profusion of bright-red berries. Probably this shrub is suited best for mild-wintered sections of the United States.

62075 to 62083.

From Argentina. Seeds secured by H. L. Westover, Bureau of Plant Industry. Received December 1, 1924.

62075. *GOURLIEA SPINOSA* (Molina) Skeels. Fabaceæ. Chañal.

Collected along the Rio Negro. A small, ornamental tree 12 to 15 feet high, with long, thick branches terminating in spines. The flowers, orange streaked with red, are in loose racemes, and the fruits, about an inch in diameter, have a pulp resembling the jujube in flavor.

62076. *MEDICAGO LUPULINA* L. Fabaceæ. Black medic.

From Trelew Plaza, Chubut.

62075 to 62083—Continued.

62077 to 62079. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

62077. Chilean alfalfa grown from seeds originally brought from San Jose de Maipo, Rio Claro, Brazil.

62078. Peruvian alfalfa grown from seeds originally brought from the high mountains near Arequipa, Peru.

62079. *Provence* alfalfa grown from seeds originally brought from Provence, France.

62080. *PROSOPIS STROMBULIFERA* (Lam.) Benth. Mimosaceæ.

"Screw bean." From a valley near Rio Negro, Choele Choele. This grows commonly in the Mendoza Desert and is a low shrub not over 12 inches high. Its peculiar screw-shaped pods look like bright-yellow spikes of flowers a short distance away. The pods hang on long after the leaves have fallen.

For previous introduction see S. P. I. No. 43386.

62081. *PROSOPIS* sp. Mimosaceæ.

Collected between the Rio Chubut and Rio Negro.

62082. *TRIFOLIUM REPENS* L. Fabaceæ. White clover.

From Trelew, Chubut.

62083. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

Barletta. From the Chubut Mercantile Co., Trelew, Chubut.

62084 to 62088. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

From Chubut Province, Argentina. Seeds presented through H. L. Westover, Bureau of Plant Industry. Received December 1, 1924. Notes by Mr. Westover.

62084. Presented by William H. Williams; from near Gaiman. Chubut, Argentina.

62085. Presented by William D. Owen, from near Trelew.

62086. Presented by Mrs. R. L. Owen, Saltland, from near Dolabon.

62087. From Chacre, Dolabon.

62088. Presented by J. H. Rowlands, from near Gaiman.

62089 to 62092. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

From Chile. Seeds obtained through H. L. Westover, Bureau of Plant Industry. Received December 1, 1924. Notes by Mr. Westover.

62089. Hacienda of Sproa, Salane y Miriel.

62090. Serena, Coquimbo.

62091. Ovalle, Coquimbo.

62092. Hurtado, Coquimbo.

62093 to 62098.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received November 17, 1924.

62093. *ACANTHOSABAL CAESPITOSA* Proschowsky. Phenicaceæ. Palm.

A spiny-stemmed palm.

62093 to 62098—Continued.

62094. BESCHORNERIA BIGELOWII Hort.
Amaryllidaceæ.

A very drought-resistant, ornamental succulent plant, hardy at Nice. (*Proschowsky*.)

62095. MIMOSA ACULEATICARPA Ortega
(*M. acanthocarpa* Poir.). Mimosaceæ.

Very drought resistant; the best hedge plant I know, absolutely impenetrable. (*Proschowsky*.)

62096. PINUS CANARIENSIS C. Smith.
Pinaceæ. Canary pine.

Rapid-growing timber tree. (*Proschowsky*.)

A pine, native to the Canary Islands, which thrives in warm temperate climates. It is suited to nearly all soils and has a straight trunk even when it grows in an isolated position. The wood of this pine, known in the Canary Islands as "tea," is very hard, very difficult to work, but unequalled for duration and building purposes because it does not rot.

62097. RAPHIOLEPIS UMBELLATA (Thunb.)
C. Schneid. (*R. japonica* Sieb. and Zucc.). Malaceæ.

Fresh seeds of a beautiful evergreen, very hardy bush which will, I think, thrive in the southeastern parts of the United States, at least as far as North Carolina. (*Proschowsky*.)

62098. VIBURNUM sp. Caprifoliaceæ.

To be grown to ascertain its horticultural value.

62099. ARACHIS NAMBYQUARAE Hoehne.
Fabaceæ. Peanut.

From Rio de Janeiro, Brazil. Seeds presented by F. W. Hoehne, Comissão de Linhas Telegraficas Estrategis de Matto Grosso ao Amazonas. Received December 10, 1924.

A Brazilian relative of the peanut, which, according to Hoehne (*Historia Natural Botânica, Matto Grosso, Brazil, Part XII*) is a much-branched, prostrate or ascending plant. The pod is 2 to 3 inches long, usually having two seeds which are edible and very oily.

62100. CICER ARIETINUM L. Fabaceæ.
Chick-pea.

From Bengal, India. Seeds presented by D. Dutta, second economic botanist. Received December 10, 1924.

Introduced for trial as stock feed in the southwestern United States.

62101 and 62102.

From Benenden, Kent, England. Plants presented by Capt. Collingwood Ingram. Received December 20, 1924.

62101. PRUNUS SERRULATA Lindl. Amygdalaceæ. Flowering cherry.

Var. *kofima*. A variety of Japanese flowering cherry which has very large, pure-white flowers which are somewhat campanulate and semidouble; these are produced in a long-stemmed, drooping corymb, and are slightly fragrant. The tree is quick growing and very vigorous. (*Ingram*.)

62102. VIOLA sp. Violaceæ. Violet.
A pink-flowered violet.

62103 to 62108.

From Littleriver, Fla. Seeds presented by Charles T. Simpson. Received December 17, 1924.

These seeds were sent to Mr. Simpson by Dr. B. E. Dahlgren, Field Museum of Natural History, Chicago, Ill.

62103. RHYTICOCOS AMARA (Jacq.) Bec-
carl (*Cocos amara* Jacq.). Phœnicaceæ
Palm.

A tall, feather-leaved palm, 50 to 100 feet in height, with a winged trunk. It is native to Martinique, French West Indies, and is closely related to the coconut.

62104. LICUALA SPINOSA Thunb. Phœnicaceæ. Palm.

A dwarf, fan-leaved, West Indian palm, 10 to 12 feet high, with roundish leaves 3 feet or more in diameter and 3-angled stems armed with brownish hooked spines. It requires abundant moisture and heat.

62105. INODES BLACKBURNIANA (Glazebr.)
O. F. Cook (*Sabal blackburniana* Glazebr.). Phœnicaceæ. Palm.

The trunk of this West Indian palm is spineless, about 40 feet high, and thickened in the middle, and the rather rigid leaf blade is round, with about 40 sword-shaped segments. The pear-shaped fruits are an inch and a half long.

62106. SABAL MAURITIAEFORMIS (Karst.)
Griseb. and Wendl. Phœnicaceæ. Palm.

A handsome West Indian palm with a trunk 60 to 80 feet in height and over a foot in diameter, and large, roundish leaves multifid to the middle, up to 12 feet in diameter. The black fruits are about the size of peas.

62107. SIMAROUBA AMARA Aubl. Simaroubaceæ.

A tall, evergreen, tropical American tree with alternate, leathery, pinnate leaves and yellowish white flowers with spreading petals. It yields a drug known as simaruba bark.

62108. TABEBUIA SERRATIFOLIA (Vahl)
Nicholson. Bignoniaceæ.

A West Indian relative of the trumpet creeper of the northern United States (*Tecoma radicans*); it is a handsome evergreen tree, with digitate leaves and terminal panicles of yellow flowers.

62109. RODGERSIA PURDOMII Hort. Saxifragaceæ.

From Langley Slough, England. Plants purchased from J. C. Allgrove, Middle Green. Received December 22, 1924.

A very attractive, hardy Chinese perennial with large, feathery panicles of creamy white flowers. It is said to thrive best in a somewhat moist, peaty soil.

62110 to 62115.

From Kew, England. Cuttings presented by Dr. A. W. Hill, director, Royal Botanic Gardens, through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received December 31, 1924.

62110. × POPULUS EUGENEI Simon-Louis.
Salicaceæ. Poplar

An unusually large and vigorous poplar, which is described by Bean (*Trees and Shrubs Hardy in the British Isles*)

as a probable hybrid between the Lombardy poplar and *Populus marilandica* or *P. regenerata*, but its origin is not definitely known. The tree originated at the nursery of Simon & Louis, near Metz, Lorraine, about 1832, as a seedling, and was still standing in 1904, when it measured 150 feet in height, with a trunk 38 feet in circumference at the base.

62111. X POPULUS GENEROSA A. Henry.
Salicaceae. Poplar.

This hybrid poplar is, according to its originator, Augustine Henry, intermediate in characters between its parents, *Populus angulata* and *P. trichocarpa*. The leaves are coarsely serrate and pale gray beneath. The tree is a rapid grower and unusually vigorous.

For previous introduction see S. P. I. No. 58646.

62112. AMYGDALUS COMMUNIS L. (Prunus amygdalus Stokes). Amygdalaceae.
Almond.

Var. *macrocarpa*. A large-fruited variety which is also excellent as an ornamental.

62113. PRUNUS MAACKII Rupr. Amygdalaceae.
Amur cherry.

A Manchurian bird cherry, 40 feet or more in height, with very smooth brownish yellow bark which peels off like that of a birch. The leaves are pointed and very finely toothed, and the white flowers are in short racemes borne on the previous season's wood.

For previous introduction see S. P. I. No. 57310.

62114. RUBUS THIBETANUS Franch. Rosaceae.

The bluish purple stems and handsome pinnate foliage make this shrub one of the most attractive of the Chinese species of *Rubus*, according to W. J. Bean (Trees and Shrubs Hardy in the British Isles). In habit it is erect, becoming about 6 feet high, and the dark-green leaves are white felted below. The purple flowers, half an inch across, are succeeded by bluish-black berries.

For previous introduction see S. P. I. No. 53538.

62115. SALIX MATSUDANA Koidz. Salicaceae.
Willow.

An eastern Asiatic willow about 40 feet in height, with ascending or pendulous, greenish branches, and narrowly lanceolate leaves 2 to 4 inches long. Observations made in northeastern China by Frank N. Meyer indicate that this willow thrives in regions having a scanty rainfall.

62116 to 62123. PISUM SATIVUM L. Fabaceae. Pea.

From Cambridge, England. Seeds presented by F. T. Engledow, School of Agriculture. Received December 19, 1924.

62116 to 62119. From Bohemia.

62116. P. 63. 62118. P. 65.

62117. P. 64. 62119. P. 66.

62120 to 62123. From Tibet.

62120. (a). 62122. (c).

62121. (b). 62123. (d).

62124 to 62126. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo Fortun, director, Estación Experimental Agronómica. Received December 20, 1924.

62124. Cuba 35. 62125. C. H. 64/21.

62126. Cuba del Cubana.

62127 and 62128.

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received December 30, 1924.

62127. DELPHINIUM PYLZOWI Maxim. Ranunculaceae. Larkspur.

A Chinese larkspur originally collected in Kansu by Przewalski, and described (Bulletin de l'Académie Impériale, St. Petersburg, vol. 23, p. 307) as having a leafy stem, 5-parted leaves, and attractive flowers with violet sepals and blackish petals.

62128. MAGNOLIA WILSONII (Finet and Gagn.) Rehder. Magnoliaceae.

In habit this Chinese magnolia is a large shrub; it was first discovered in western Szechwan by E. H. Wilson, and appears to be a valuable horticultural addition to this already popular genus. The flowers, which are pure white and delicately fragrant, are produced freely during late May and early June.

62129. CASTANEA MOLLISSIMA Blume. Fagaceae. Hairy chestnut.

From Nanking, China. Seeds presented by Dr. J. H. Reisner, University of Nanking. Received November 14, 1924.

A hardy, blight-resistant chestnut from northern China, producing nuts of good quality, closely resembling our native chestnut in size, shape, and color.

62130. VIGNA SINENSIS (Torner) Savi. Fabaceae. Cowpea.

From Tailungyuan, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 8, 1924.

No. 809. October 7, 1924. Red and white seeded cowpea from one of the village farmers. This is one of the two chief varieties grown around here. (Dorsett.)

62131. CANNA sp. Cannaceae. Canna.

From Summit, Canal Zone. Seeds presented by Holger Johansen, agronomist, Plant Introduction Gardens. Received December 30, 1924.

A dark-red canna, quite common here and of ornamental value. (Johansen.)

62132 to 62140.

From China. Bulbs and tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 20, 1924. Notes by Mr. Dorsett.

62132. ALLIUM sp. Liliaceae. Onion.

No. 1095. Peking. October 31, 1924. Bulbs of Chinese "garlic." The Chinese use garlic in many forms and especially in their cooking.

62132 to 62140—Continued.

62133 and 62134. *Dioscorea* sp. Dioscoreaceæ. Yam.

62133. No. 1058. Peking. October 31, 1924. Tubers of a Chinese variety *Shan Yoo* (mountain medicine).

62134. No. 1094. Peking. October 31, 1924. Aerial tubers purchased in the market. These tubers are said to be from the same vine which produce the long ground tubers, No. 1058 [S. P. I. No. 62133].

62135 to 62140. *Solanum tuberosum* L. Solanaceæ. Potato.

62135. No. 1096. Peking. October 31, 1924. Tubers of a good-looking potato purchased in the market. It is said that these potatoes are also shipped in from Tientsin.

62136. No. 1097. Peking. October 31, 1924. Tubers of an oblong, medium-sized potato shipped in to the market from Tientsin.

62137 and 62138. October 31, 1924. Tubers purchased in the Peking market.

62137. No. 1098. Tubers of a rather small, oblong, purplish potato shipped in to the market from Kalgan.

62138. No. 1099.

62139. No. 1312. Huangan, Chihli. November 8, 1924. These tubers are white or tinged with a delicate shade of pink, and though not so very large they are of fair appearance.

62140. No. 1313. Huangan, Chihli. November 8, 1924. Tubers of a rather small, purple-skinned potato. The Chinese say that this variety is dug in the fall.

62141. *Calophyllum calaba* L. Clusiaceæ.

From Summit, Canal Zone. Seeds presented by Holger Johansen, Plant Introduction Garden. Received November 18, 1924.

A West Indian relative of the mango-steen (*Garcinia mangostana*) which is known as the Calaba tree; it becomes 60 feet high, with dark-green, glossy foliage and axillary clusters of white flowers. The wood is used for building purposes, and the oil pressed from the seeds is sometimes used, in Porto Rico, in lamps.

62142 to 62158.

From China. Collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1924. Notes by Mr. Dorsett.

62142. *Corylus* sp. Betulaceæ. Hazel.

No. 1297. November 8, 1924. Scions collected between Shihchiaying and Huangan. This hazel is reported to bear flattened nuts in place of the conical nuts like those sent in under No. 799 [S. P. I. No. 62170].

62143. *Diospyros kaki* L. f. Diospyraceæ. Kaki.

No. 1229. November 6, 1924. Scions from a large orchard near Hielungkuan. The fruits are 4 inches or more in diameter.

62144 to 62146. *Juglans regia* L. Juglandaceæ. Walnut. Scions.

62142 to 62158—Continued.

62144. No. 1285. November 8, 1924. From a good-looking young tree growing in a canyon between Shihchiaying and Huangan.

62145. No. 1314½. November 9, 1924. From a good-looking tree growing in a terraced orchard a short distance above Taho, Chihli.

62146. No. 1315½. November 9, 1924. From a large good-looking tree growing in a terraced orchard just above Taho, Chihli.

62147. *Populus* sp. Salicaceæ. Poplar.

No. 1296. November 8, 1914. Cuttings obtained from small suckers and plants growing between Shihchiaying and Huangan.

62148 to 62151. *Prunus armeniaca* L. Amygdalaceæ. Apricot.

Scions.

62148. No. 1403. November 11, 1924. From an old tree measuring 56 inches in circumference, growing in an old Chinese cemetery near Yenchia, Chihli. This tree is said to bear large, long fruits with golden-yellow flesh which separates easily from the stone.

62149. No. 1404. November 11, 1924. A large, red-fruited apricot with dark-yellow flesh, from a terraced mountain side between Yenchia and Menloukou, Chihli.

62150. No. 1405. Honantai, Chihli. November 11, 1924. A reddish-green apricot having large fruit; from an orchard located on a terraced mountain side.

62151. No. 1406. Honantai, Chihli. November 11, 1924. An apricot known here as the *Kan Ke Lo*. This is said to be a good-sized apricot having yellow flesh which separates easily from the stone.

62152. *Rosa* sp. Rosaceæ. Rose.

No. 1290. November 8, 1924. Cuttings collected near an old Chinese temple between Shihchiaying and Huangan, Chihli. The hips are bright red and slender, and the stems are dull red and quite thorny.

62153. *Rubus* sp. Rosaceæ.

No. 1291. November 8, 1924. Plants collected between Shihchiaying and Huangan.

62154. *Salix* sp. Salicaceæ. Willow.

No. 1295. November 8, 1924. Cuttings of a willow found growing quite abundantly between Shihchiaying and Huangan.

62155 to 62157. *Vitis vinifera* L. Vitaceæ. Grape.

62155. No. 1156. Between Peking and Toli. November 3, 1924. Scions of the so-called rose grape, secured from Mr. Tsui.

62156. No. 1173. Menshuiho, Chihli. November 4, 1924. Cuttings of a rose or pink grape procured from Mr. Wang. These plants were growing in sandy loam.

62157. No. 1174. Menshuiho, Chihli. November 4, 1924. Cuttings of a long, white grape, known as "milk grape," procured from Mr. Wang.

62142 to 62158—Continued.

62158. *VITIS* sp. Vitaceæ. Grape.

No. 1292. November 8, 1924. Scions collected between Shihchiaying and Huanggan. This grape may prove useful as an ornamental.

62159 and 62160.

From China. Tubers collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received November, 1924. Notes by Mr. Dorsett.

62159. *DIOSCOREA* sp. Dioscoreaceæ. Yam.

No. 789. October 9, 1924. Aerial tubers from a vine growing on the hill just back of the Yung Lo [Ming] tomb, Changling, Chihli.

62160. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceæ. Sweet potato.

No. 796. Nananho, Chihli. October 21, 1924. The flesh of these good-sized sweet potatoes is creamy white with a slight tinge of pink near the skin.

62161 to 62184.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1924. Notes by Mr. Dorsett.

62161 and 62162. *ANDROPOGON ISCHAEMUM* Poaceæ. Grass.

62161. No. 800. October 7, 1924. A grass, called by the Chinese "brush grass," secured in a river bottom area between Tuili and Mentoukou.

62162. No. 801. October 7, 1924. Near Nankow, on the road to the Ming tombs, we found this grass forming a thick mat; the stems and panicles have a reddish cast. It grows on very dry, gravelly soil.

62163 and 62164. *ARACHIS HYPOGAEA* L. Fabaceæ. Peanut.

62163. No. 962. Hsingshon, Chihli. October 12, 1924. From plants growing in river-bottom soil.

62164. No. 1029. Peking. October 22, 1924. Sent in to the market from Taotingfu where considerable quantities of these small peanuts are grown. The Chinese steam these, hulls and all, in a strong salt solution, then dry and shell the nuts. These nuts are chiefly used as salted peanuts.

62165. *CANNABIS SATIVA* L. Moraceæ. Hemp.

No. 931. October 11, 1924. From the Fa Hua Ssu temple grounds, near Haitzu, Chihli.

62166. *CAPSICUM ANNUUM* L. Solanaceæ. Red pepper.

No. 994. Peking. October 17, 1924. A long smooth-skinned, red pepper, procured in the market.

62167. *CARAGANA* sp. Fabaceæ.

No. 905. October 10, 1924. Collected from plants growing on a mountain side near Laochun.

62168. *CELTIS BUNGEANA* Blume. Ulmaceæ. Hackberry.

No. 1014. October 21, 1924. A tree with small, deep-green leaves, and black fruits the size of small peas, growing in the Black Dragon temple grounds.

62161 to 62184—Continued.

62169. *CHAENOMELES* sp. Malaceæ. Chinese quince.

No. 1012. October 20, 1924. Shipped in to the Peking market from Kansu. These fruits have a pleasant fragrance. The flesh is yellow, hard, gritty, and quite acid.

62170. *CORYLUS* sp. Betulaceæ. Hazel.

No. 799. Peking. October 21, 1924. Procured in the market. These hazelnuts, reported to be native Chinese hazel, are the smallest we have ever seen. They may have value for growing as stock plants on which to graft other and larger sorts.

62171. *DOLICHOS LABLAB* L. Fabaceæ. Hyacinth bean.

No. 792. Peking. October 15, 1924. This bean, obtained in the market, is called "French bean" by the Chinese, who use it dried as a vegetable.

62172 to 62174. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench). Polygonaceæ. Buckwheat.

62172. No. 864. Chunglang, Chihli. October 9, 1924. Sample of buckwheat obtained from a farmer.

62173. No. 935. Fa Hua Ssu temple, near Taitzu, Chihli. From a mountain valley.

62174. 963. Tangshan (Hot Springs). October 12, 1924. Growing on sandy loam.

62175. *FALCATA EDGEWORTHII* (Benth.) Kuntze. Fabaceæ.

No. 860. Yung Lo [Ming] tomb, Changling, Chihli. October 9, 1924. The seeds are greenish yellow and blotched with black. May prove useful as a ground cover.

62176. *GLEDITSIA SINENSIS* Lam. Cæsalpinaceæ.

No. 1019. Wenchueng, Chihli. October 21, 1924. A good-sized, round-headed tree with compound leaves. The Chinese use the pods in the manufacture of soap.

62177 and 62178. *IRIS DICHOTOMA* Pall. Iridaceæ. Iris.

62177. No. 773. October 9, 1924. Collected across the river from the Yung Lo [Ming] tomb. The flowers are said to be yellow.

62178. No. 774. October 9, 1924. From plants growing in the grounds of the Yung Lo [Ming] tomb.

62179. *LATHYRUS* sp. Fabaceæ.

No. 906. Shalingliang, Chihli. October 10, 1924. Pods collected from a bundle of wild grass brought down from the mountain.

62180. *LESPEDEZA* sp. Fabaceæ.

No. 810. October 7, 1924. Collected between Lunghutai and the Ming tombs.

62181. *LESPEDEZA* sp. Fabaceæ.

No. 866. Nung Lo tomb, near Changling, Chihli. October 9, 1924. Said to be good for goats.

62182. *LESPEDEZA VIRGATA* (Thunb.) DC. Fabaceæ.

No. 925. Fa Hua Ssu temple, near Haitzu. October 11, 1924. A shrubby legume.

62161 to 62184—Continued.

62183. MELOTHRIA sp. Cucurbitaceæ.

No. 1027. Peking. October 22, 1924. *Chih Pao* (red parcel). The sweet, melonlike fruits with smooth, red skin are small but quite attractive.

62184. MENISPERMUM DAURICUM DC. Menispermaceæ. Asiatic moonseed.

No. 959. Near Hssachunk. October 12, 1924. A vine having ivylike leaves and berries about as large as good-sized peas.

62185. INDIGOFERA MACROSTACHYA Vent. Fabaceæ. Indigo.

From Shalingliang, Chihli, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 6, 1924.

No. 908. October 10, 1924. A shrubby plant with hairy leaflets and pink flowers in dense racemes which are longer than the leaves, found growing along the trail near Shalingliang on very poor soil.

62186 to 62229.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December, 1924. Notes by Mr. Dorsett.

62186. ORYZA SATIVA L. Poaceæ. Rice.

No. 981. Tatangshan (the Large Hot Spring Mountain), Chihli. October 13, 1924. Seeds obtained from a rice farmer.

62187. PERILLA FRUTESCENS (L.) Britton (*P. ocymoides* L.): Menthaceæ. Perilla.

No. 930. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. The small, gray seeds of this perilla are used for the oil contained in them.

62188 to 62190. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Fabaceæ. Adzuki bean.

62188. No. 828. Tailungyuan. October 8, 1924. A mottled black and gray bean; from vines growing in a large persimmon orchard.

62189. No. 857. Lung Lo tomb, Changling, Chihli. October 9, 1924. A pink bean obtained from a farmer.

62190. No. 969. Tangshan (Hot Springs), Chihli. October 12, 1924. A small, dark-blue and gray mottled bean.

62191 and 62192. PHASEOLUS AUREUS Roxb. Fabaceæ. Mung bean.

62191. No. 808. Tailungyuan. October 7, 1924. A green mung bean obtained from a farmer.

62192. No. 929. Fa Hua Ssu temple, near Haiszu, Chihli. October 11, 1924. A green mung bean.

62193. PHASEOLUS CALCARATUS Roxb. Fabaceæ. Rice bean.

No. 858. Lung Lo tomb, Changling, Chihli. October 9, 1924. A small, creamy-white bean obtained from a farmer.

62194. PINUS sp. Pinaceæ. Pine.

No. 868. Nung Lo tomb, near Changling, Chihli. October 9, 1924. This is a low, flat-headed, scraggly pine of a rather peculiar appearance.

62186 to 62229—Continued.

62195. PYRUS BETULAEFOLIA Bunge. Malaceæ. Pear.

No. 865. Nung Lo tomb, near Changling, Chihli. October 9, 1924. This tree, 20 or more feet in height, does not show any signs of blight.

62196. PYRUS sp. Malaceæ. Pear.

No. 766. October 6, 1924. Seeds of a domesticated Chinese sugar pear found in the district of the Ming tombs, north-east of Peking.

62197. RICINUS COMMUNIS L. Euphorbiaceæ. Castor bean.

No. 907. Wanpaochuan, Chihli. October 10, 1924. From the edge of a cultivated field.

62198 to 62208. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soy bean.

62198. No. 804. Lunghutai. October 7, 1924. This black soy bean is the commonest type grown in this section.

62199. No. 811. Tailungyuan. October 7, 1924. This is the leading variety grown here.

62200. No. 856. Yung Lo tomb, Changling, Chihli. October 9, 1924. A yellow variety.

62201. No. 933. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. A black variety.

62202. No. 936. October 12, 1924. A yellow variety, mottled with brown, obtained from the priest of the Fa Hua Ssu temple, near Haitzu, Chihli.

62203. No. 937. October 12, 1924. A very dark-brown variety obtained from the priest of the Fa Hua Ssu temple, near Haitzu, Chihli.

62204. No. 964. Tangshan (Hot Springs). October 12, 1924. A creamy yellow variety.

62205. No. 966. Tangshan (Hot Springs). October 12, 1924. A black variety; one of the most important types grown in this sandy loam river-bottom soil.

62206. No. 1013. Chouchiahsiang, Chihli. October 21, 1924. A yellow or creamy yellow variety commonly grown in this section.

62207. No. 1015. Chouchiahsiang, Chihli. October 21, 1924. A black variety commonly grown in this level valley section.

62208. No. 1030. Peking. October 22, 1924. A brown variety streaked with black, called by the Chinese *Hu p't tou* (tiger skin). These soy beans taste very good after being roasted.

62209 to 62211. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceæ. Common wheat.

62209. No. 863. Nung Lo tomb, Changling. October 9, 1924. This winter wheat has the smallest grain we have ever seen, and it appears very soft.

62210. No. 970. Tangshan (Hot Springs). October 12, 1924. Ordinary winter wheat with very small grains.

62186 to 62229—Continued.

62211. No. 1016. Chouchiahsiang, Chihli. October 21, 1924. A winter wheat growing in a broad flat valley.

62212 and 62213. *VICIA FABA* L. Fabaceæ. Broad bean.

Peking. Beans known here as *Tsan tou* (silkworm bean). These are roasted and are also cooked and used as a vegetable.

62212. No. 783. October 15, 1924. A large, broad, brownish green variety.

62213. No. 1031. October 22, 1924. A pinkish buff variety.

62214. *VIGNA SESQUIPEDALIS* (L.) Fruticosa. Fabaceæ. Yard Long bean.

No. 802. Between Nankou and Lung-hutai. October 7, 1924. The base of this bean is terra-cotta colored and is blotched or streaked with a deeper shade of red.

62215 to 62224. *VIGNA SINENSIS* (Torner) Savi. Fabaceæ. Cowpea.

62215. No. 803. Between Nankou and Lung-hutai. October 7, 1924. A cowpea with a pinkish or purple eye, growing in a very dry situation.

62216. No. 809. Tailungyuan. October 7, 1924. A pink or brown eyed cowpea.

62217. No. 855. Yung Lo tomb, Changling, Chihli. October 9, 1924. A pink cowpea.

62218. No. 932. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. A cowpea mottled brown and white.

62219. No. 934. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. A pink or brown eyed cowpea.

62220. No. 965. Tangshan (Hot Springs). October 12, 1924. This brown-eyed cowpea is one of the leading types grown on this sandy loam river-bottom soil.

62221. No. 968. Tangshan (Hot Springs). October 12, 1924. Cowpea mottled pink and white.

62222. No. 1017. Chouchiahsiang, Chihli. October 21, 1924. A brown-eyed cowpea.

62186 to 62229—Continued.

62223. No. 1018. Chouchiahsiang, Chihli. October 21, 1924. A pink cowpea.

62224. No. 1045. Peking. October 25, 1924. A mottled reddish brown and creamy yellow cowpea purchased in the market and reported to have come from the region south of Peking.

62225. *ZANTHOXYLUM* sp. Rutaceæ. Prickly ash.

No. 903. Yung Lo [Ming] tomb, Changling, Chihli. October 10, 1924. This plant is fully as broad as it is high, and the dark-green leaves have a pleasant, spicy odor. It may prove to be a good ornamental and possibly a good hedge plant.

62226 and 62227. *ZEA MAYS* L. Poaceæ. Corn.

62226. No. 806. Lung-hutai. October 7, 1924. Small ears of flint corn purchased in the temple. The keeper reported that this corn is harvested within 100 days after planting.

62227. No. 926. Fa Hua Ssu temple, near Haitzu, Chihli. October 11, 1924. Yellow flint corn grown here on the mountain.

62228. *ZIZIPHUS JUJUBA* Mill. (*Z. sativa* Gaertn.). Rhamnaceæ. Jujube.

No. 758. Peking. October 1, 1924. These fruits, obtained in the market, are quite acid and of good quality.

62229. *GREWIA PARVIFLORA* Bunge.

No. 829. Nung Lo tomb, near Changling, Chihli. October 9, 1924. Collected from a small shrub which resembled a *Celtis*.

62230. *RHAMNUS DAURICA* Pall. Rhamnaceæ. Dahurian buckthorn.

From China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received December 6, 1924.

No. 967. October 12, 1924. A shrub having rather small, deep-green leaves and numerous small, purple or black, one-seeded fruits; found at Neutang, a short distance from Tangshan (Hot Springs). (Dorsett.)

INDEX OF COMMON AND SCIENTIFIC NAMES

- Acacia* spp., 61798, 61880.
 baileyana × *dealbata*, 61797.
Acanthosabal caespitosa, 62093.
Acer osmastoni, 61742.
 stachyophyllum, 61743.
Actinidia venosa, 61803.
Aegle marmelos. See *Belou marmelos*.
Afzelia breiyyi, 61774.
 quanzensis. See *Pahudia quanzensis*.
Agati grandiflora, 61778.
Agrostis montevidensis, 62031.
Alangium alpinum, 61744.
Alfalfa, *Medicago sativa*, 61768, 62077–62079, 62084–62092.
Allium sp., 62132.
Almond, *Amygdalus communis*, 62112.
 bitter, *A. communis*, 62011.
Ampelopsis aconitifolia, 61738.
Amygdalus communis, 62011, 62112.
 persica, 61739, 61811–61816.
 persica platycarpa, 61817.
Andropogon consanguineus, 62060.
 ischaemum, 62161, 62162.
 lateralis incanus, 62032.
 saccharoides, 62033, 62061.
Apple, *Malus* spp., 61819–61826, 61925.
Apricot, *Prunus armeniaca*, 62148–62151.
Arachis hypogaea, 61772, 61818, 62163, 62164.
 nambyquarae, 62099.
Aristida spp., 62062, 62063.
Aristolochia sp., 61903.
Aronia arbutifolia, 61972.
Arrowhead, *Sagittaria sagittifolia*, 61884.
Artocarpus sp., 62009.
Avena sativa, 61999.
Avocado, *Persea americana*, 61740.
Barberry, *Berberis* spp., 61782–61784.
 B. brachypoda, 61973.
 B. gagnepaini, 61974.
 B. poireti, 61906.
Barley, 6-rowed, *Hordeum vulgare coeleste*, 62003.
Bean, adzuki, *Phaseolus angularis*, 61926–61929, 62188–62190.
 common, *P. vulgaris*, 61935, 61936.
 mung, *P. aureus*, 61749, 61750, 61930–61934, 62191, 62192.
 rice, *P. calcaratus*, 62193.
 Yard Long, *Vigna sesquipedalis*, 61956–61958, 62214.
Begonia evansiana, 61904.
Bel, *Belou marmelos*, 61762.
Bellflower, *Campanula* sp., 61741.
Belou marmelos, 61762.
Benincasa hispida, 61905.
Berberis spp., 61782–61784.
 brachypoda, 61973.
 gagnepaini, 61974.
 poireti, 61906.
Beschorneria bigelowii, 62094.
Blackberry, *Rubus* sp., 61779.
Bomarea caldasii, 62027.
 carderi, 62028.
Bouteloua megapotamica, 62034.
Brachylaena hutchinsii, 61776.
Broad bean, *Vicia faba*, 62212, 62213.
Bromus sp., 62065.
 unioloides, 62064.
 willdenowii, 62035.
Buckthorn, *Rhamnus globosa*, 61939.
 dahurian, *R. davurica*, 62230.
Buckwheat, *Fagopyrum vulgare*, 62172–62174.
Byrsanima spicata, 62006.
Calamagrostis montevidensis, 62036.
Calophyllum calaba, 62141.
Campanula sp., 61741.
Canarium album, 61761.
Canna sp., 62131.
Cannabis sativa, 62165.
Capriola dactylon, 62037.
Capsicum annuum, 61907, 61908, 62166.
Caragana sp., 62167.
Carrot, *Daucus carota*, 62001.
Castanea spp., 61834, 61835.
 mollissima, 62129.
Castor bean, *Ricinus communis*, 62197.
Casuarina stricta, 62017.
 suberosa, 62018.
Cedrela toona. See *Toona ciliata*.
Celtis bungeana, 62168.
Chaenomeles sp., 62169.
Chaetochloa onurus, 62038.
Chamaedorea elegans, 62013.
Chañal, *Gourliea spinosa*, 62075.
Cherry, *Prunus* sp., 61846.
 Amur, *P. maackii*, 62113.
 flowering, *P. serrulata*, 62101.
 Morello, *P. cerasus*, 61804.
Chestnut, *Castanea* spp., 61834, 61835.
 hairy, *C. mollissima*, 62129.
Chick-pea, *Cicer arietinum*, 62100.
Chloris argentina, 62066.
 canterai, 62039.
 carabaea, 62040.
 ciliata, 62041.
 uliginosa, 62042.
Chokeberry, red, *Aronia arbutifolia*, 61972.
Chorogi, *Stachys sieboldi*, 61897.
Cicer arietinum, 62100.
Citrullus vulgaris, 61900, 61909–61913.
Citrus spp., 61763, 61764.
Clover, white, *Trifolium repens*, 62082.
Cocos amara. See *Rhyticocos amara*.
Colocasia sp., 61883.
Cordeauxia edulis, 61767.
Coriaria terminalis, 61975.
Corn, *Zea mays*, 61966–61970, 62000, 62226, 62227.
Cornus controversa, 61775.
Corylus spp., 61836, 62142, 62170.
Cotoneaster frigida, 61976.
 salicifolia rugosa, 61977.
Cotton, *Gossypium* sp., 61893.
Cowpea, *Vigna sinensis*, 61759, 61760, 61959–61965, 61997, 62130, 62215–62224.
Crab, Sikkim, *Malus sikkimensis*, 62026.
 tea, *Malus theifera*, 61983.
Crataegus oxyacantha, 61978.
Cryptostegia grandiflora, 61795.
Cucumis melo, 61901, 61902, 61914.
Cucurbita moschata, 61915–61917.
 pepo, 61918.
Cushaw, *Cucurbita moschata*, 61915–61917.
Cynodon dactylon. See *Capriola dactylon*.
Daucus carota, 62001.
Davidia involucrata, 62007.
 involutrata vilmoriniana, 62022, 62030.
Decaisnea insignis, 61745.
Delphinium grandiflorum, 61919, 61920.
 pylzewi, 62127.
Deutzia longifolia, 62012.
Dioscorea spp., 61921, 62133, 62134, 62159.
Diospyros sp., 62005.
 kaki, 61837–61842, 61894, 61895, 62143.
 sabiensis, 61810.
Dipteronia sinensis, 61979.

- Dogwood, giant, *Cornus controversa*, 61775.
Dolichos lablab, 62171.
Dove tree, *Davidia involucrata*, 62007.
D. involucrata vilmoriniana, 62022, 62030.
Echinochloa holciformis, 61770.
Eggplant, *Solanum melongena*, 61953.
Erica arborea alpina, 62023.
Eriobotrya japonica, 61882.
Eriochloa punctata, 62043.
Eucalyptus pauciflora, 61833.
Eucryphia pinnatifolia, 62008.
Euonymus europaeus, 61980.
hamiltonianus, 61981.
yedoensis, 61982.
Euonymus yeddo, *Euonymus yedoensis*, 61982.
Fagopyrum esculentum. See *F. vulgare*.
vulgare, 62172–62174.
Falcata edgeworthii, 62175.
Ficus volkensii, 61796.
Firethorn, *Pyracantha crenulata*, 62074.
Fragaria sp., 61885.
Gaultheria fragrantissima, 61746.
Geum borisii, 61786.
Ginger, *Zinziber officinale*, 61898.
Gleditsia heterophylla, 61922.
sinensis, 62176.
Glycine hispida. See *Soja max*.
Gooseberry, *Ribes* sp., 61794.
Gordonia axillaris, 62010.
Gossypium sp., 61893.
Gourliea spinosa, 62075.
Grape, *Vitis* spp., 61996, 62158.
V. vinifera, 62155–62157.
Grass, *Agrostis montevidensis*, 62031.
Andropogon consanguineus, 62060.
A. lateralis incanus, 62032.
A. ischaemum, 62161, 62162.
A. saccharoides, 62033, 62061.
Aristida spp., 62062, 62063.
Bouteloua megapotamica, 62034.
Bromus sp., 62065.
B. willdenowii, 62035.
Calamagrostis montevidensis, 62036.
Chaetochloa onurus, 62038.
Chloris argentina, 62066.
C. canterai, 62039.
C. carabaea, 62040.
C. ciliata, 62041.
C. uliginosa, 62042.
Echinochloa holciformis, 61770.
Eriochloa punctata, 62043.
Hordeum murinum, 62067.
Manisuris selloana, 62044.
Panicum bergii, 62045.
Paspalum sp., 62052.
P. barbigerrum, 62046.
P. dilatatum, 62047.
P. larranagai, 62048.
P. notatum, 62049.
P. plicatulum, 62050.
P. proliferum, 62051.
Poa lanuginosa, 62068.
Sporobolus berterianus, 62053.
S. rigens, 62069.
Stenotaphrum secundatum, 62054.
Stipa charruana, 62055.
S. chubutensis, 62070.
S. humilis, 62071.
S. hyalina, 62056.
S. hypogona, 62072.
S. neaei, 62073.
S. papposa, 62057.
S. setigera, 62058.
Triodia brasiliensis, 62059.
Bermuda, *Capriola dactylon*, 62037.
rescue, *Bromus unioloides*, 62064.
Grewia parviflora, 62229.
Ground cherry, *Physalis* sp., 61937.
Guava, *Psidium guajava*, 61769.
Hackberry, *Celtis bungeana*, 62168.
Hawthorn, English, *Crataegus oxyacantha*, 61978.
Hazel, *Corylus* spp., 61836, 62142, 62170.
Heath, *Erica arborea alpina*, 62023.
Helianthus tuberosus, 61896.
Hemp, *Cannabis sativa*, 62165.
Hesperethusa crenulata, 61765.
Honey locust, *Gleditsia heterophylla*, 61922.
Honeysuckle, *Lonicera* sp., 61924.
Hordeum murinum, 62067.
vulgare coeleste, 62003.
Hyacinth bean, *Dolichos lablab*, 62171.
Hypericophyllum sp., 61799.
Indigo, *Indigofera macrostachya*, 62185.
Indigofera macrostachya, 62185.
Inodes blackburniana, 62105.
Ipomoea batatas, 62160.
Iris spp., 61843, 61844.
dichotoma, 61923, 62177, 62178.
Jasmine, *Jasminum fruticans*, 62020.
primrose, *J. primulinum*, 62021.
Jasminum fruticans, 62020.
primulinum, 62021.
Jerusalem artichoke, *Helianthus tuberosus*, 61896.
Juglans regia, 61855, 62144–62146.
Jujube, *Ziziphus jujuba*, 62228.
Kaki, *Diospyros kaki*, 61837–61842, 61894, 61895, 62143.
Langsat, *Lansium domesticum*, 61899.
Lansium domesticum, 61899.
Larkspur, *Delphinium grandiflorum*, 61919, 61920.
D. pylzowi, 62127.
Lathyrus sp., 62179.
Lespedeza spp., 62180, 62181.
virgata, 62182.
Licuala spinosa, 62104.
Lilium sp., 61854.
centifolium, 61748.
farreri, 61747.
Lily. See *Lilium* spp.
Lonicera sp., 61924.
Loquat, *Eriobotrya japonica*, 61882.
Magnolia campbellii, 61771.
wilsonii, 62128.
Malus spp., 61819–61826, 61925.
sikkimensis, 62026.
theifera, 61983.
Manisuris selloana, 62044.
Maple, *Acer osmastonii*, 61742.
A. stachyophyllum, 61743.
Meconopsis pseudointegrifolia, 61787.
sinuata, 61788.
Medicago lupulina, 62076.
sativa, 61768, 62077–62079, 62084–62092.
Medic, black, *Medicago lupulina*, 62076.
Melon, *Cucumis melo*, 61901, 61902, 61914.
Melothria sp., 62183.
Menispermum dauricum, 62184.
Mimosa acanthocarpa. See *M. aculeaticarpa*.
aculeaticarpa, 62095.
Moonseed, Asiatic, *Menispermum dauricum*, 62184.
Mountain ash, European, *Sorbus aucuparia*, 61988, 61989.
Nasturtium, vermilion, *Tropaeolum speciosum*, 62019.
Nothofagus betuloides, 61785.
Nut, yehob, *Cordeauxia edulis*, 61767.
Oak, *Quercus* sp., 61881.
Q. lucombeana, 62025.
Oats, *Avena sativa*, 61999.
Olea chrysophylla, 61777.
Onion, *Allium* sp., 62132.
Oryza sativa, 61998, 62186.
Oxalis incarnata, 61801.
Pacayito, *Chamaedorea elegans*, 62013.
Pahudia quanzenensis, 61800.
Palm, *Acanthosabal caespitosa*, 62093.
Inodes blackburniana, 62105.
Licuala spinosa, 62104.
Rhyticocos amara, 62103.
Panicum bergii, 62045.

- Paspalum* sp., 62052.
barbigerum, 62046.
dilatatum, 62047.
larranagai, 62048.
notatum, 62049.
plicatulum, 62050.
proliferum, 62051.
Passiflora herbertiana, 62029.
 Pea, *Pisum sativum*, 61751, 61752, 62116-62123.
 Peach, *Amygdalus persica*, 61739, 61811-61816.
 flat, *Amygdalus persica platycarpa*, 61817.
 Peanut, *Arachis hypogaea*, 61772, 61818, 62163, 62164.
 A. nambiquarae, 62099.
 Pear, *Pyrus* spp., 61828-61832, 61847-61850, 61856, 62196.
 P. betulaefolia, 62195.
 P. salicifolia, 61985.
Perilla frutescens, 62187.
 ocymoides. See *P. frutescens*.
Persea americana, 61740.
 gratissima. See *P. americana*.
 Persimmon, *Diospyros* sp., 62005.
 D. sabiensis, 61810.
Phaseolus angularis, 61926-61929, 62188-62190.
 aureus, 61749, 61750, 61930-61934, 62191, 62192.
 calcaratus, 62193.
 vulgaris, 61935, 61936.
Physalis sp., 61937.
 Pine. See *Pinus* spp.
 canary, *Pinus canariensis*, 62096.
Pinus sp., 62194.
 canariensis, 62096.
Pirocydonia danieli, 62015.
 winkleri, 62016.
Pisum sativum, 61751, 61752, 62116-62123.
 Plane tree, *Platanus acerifolia*, 62024.
Platanus acerifolia, 62024.
 Plum, *Prunus* sp., 61827.
Poa lanuginosa, 62068.
 Poplar. See *Populus* spp.
Populus sp., 62147.
 eugenei, 62110.
 generosa, 62111.
 tomentosa, 61845.
 Potato, *Solanum demissum* × *tuberosum*, 61781.
 S. tuberosum, 62135-62140.
 wild, *Solanum* spp., 61886-61892.
 Prickly ash, *Zanthoxylum* sp., 62225.
 Primrose. See *Primula* spp.
Primula sp., 61792.
 chionantha, 61789.
 cockburniana, 61790.
 involuta, 61791.
Prosopis sp., 62081.
 strombulifera, 62080.
Prunus spp., 61802, 61827, 61846.
 amygdalus. See *Amygdalus communis*.
 armeniaca, 62148-62151.
 cerasus, 61804.
 maackii, 62113.
 persica. See *Amygdalus persica*.
 serrulata, 62101.
Psedera himalayana, 61984.
Psidium guajava, 61769.
Pterocarya stenoptera, 61938.
 Pumpkin, *Cucurbita pepo*, 61918.
Pyracantha crenulata, 62074.
Pyrus spp., 61828-61832, 61847-61850, 61856, 62196.
 arbutifolia. See *Aronia arbutifolia*.
 aucuparia. See *Sorbus aucuparia*.
 betulaefolia, 62195.
 folgneri. See *Sorbus folgneri*.
 salicifolia, 61985.
 sikkimensis. See *Malus sikkimensis*.
Quercus sp., 61881.
 lucombeana, 62025.
 Quince, Chinese, *Chaenomeles* sp., 62169.
Raphiolepis japonica. See *R. umbellata*.
 umbellata, 62097.
 Raspberry, Andean, *Rubus glaucus*, 62014.
 Red pepper, *Capsicum annum*, 61907, 61908, 62166.
Rhamnus davurica, 62230.
 globosa, 61939.
Rhyticocos amara, 62103.
Ribes sp., 61794.
 Rice, *Oryza sativa*, 61998, 62186.
Ricinus communis, 62197.
Rodgersia purdomii, 62109.
Rosa sp., 62152.
 dauidi, 61986.
 roulettii, 61853.
Roscoea cauleoides, 61793.
 Rose. See *Rosa* spp.
 Rubber, palay, *Cryptostegia grandiflora*, 61795.
Rubus spp., 61779, 61851, 62153.
 glaucus, 62014.
 thibetanus, 62114.
Sabal blackburniana. See *Inodes blackburniana*.
 mauritiaeformis, 62106.
Saccharum officinarum, 62124-62126.
Sagittaria sagittifolia, 61884.
Salix spp., 61852, 62154.
 matsudana, 62115.
Sesbania grandiflora. See *Agati grandiflora*.
Setaria onurus. See *Chaetochloa onurus*.
Simarouba amara, 62107.
 Snowbell, *Styrax dasyanthum*, 61994.
Soja max, 61753-61758, 61805-61809, 61940-61952, 62198-62208.
Solanum spp., 61780, 61886-61892.
 demissum × *tuberosum*, 61781.
 melongena, 61953.
 opacum, 61773.
 tuberosum, 62135-62140.
Sorbus aria × *aucuparia*, 61987.
 aucuparia, 61988, 61989.
 folgneri, 61990.
 scalaris, 61991.
 vilmorini, 61992.
 Soy bean. See *Soja max*.
 Spindle tree, *Euonymus europaeus*, 61980.
Spiraea dasyantha, 61954.
Spiraea dasyantha, 61954.
Sporobolus berterianus, 62053.
 rigens, 62069.
Stachys sieboldi, 61897.
Stenotaphrum secundatum, 62054.
Stipa charruana, 62055.
 chubutensis, 62070.
 humilis, 62071.
 hyalina, 62056.
 hypogona, 62072.
 neaei, 62073.
 papposa, 62057.
 setigera, 62058.
Stranvaesia davidiana undulata, 61993.
 Strawberry, *Fragaria* sp., 61885.
Styrax dasyanthum, 61994.
 Sugar cane, *Saccharum officinarum*, 62124-62126.
 Sweet potato, *Ipomoea batatas*, 62160.
Tabebuia serratifolia, 62108.
 Taro, *Colocasia* sp., 61883.
 Toon tree, *Toona ciliata*, 61766.
Toona ciliata, 61766.
Trifolium repens, 62082.
Triodia brasiliensis, 62059.
Triticum aestivum, 61857-64860, 62004, 62083, 62209-62211.
 durum, 61861-61879, 62002.
 vulgare. See *T. aestivum*.
Tropaeolum speciosum, 62019.
Viburnum spp., 61955, 62098.
 ovatifolium, 61995.
Vicia faba, 62212, 62213.
Vigna sesquipedalis, 61956-61958, 62214.
 sinensis, 61759, 61760, 61959-61965, 61997, 62130, 62215-62224.

Viola sp., 62102.

Violet, *Viola* sp., 62102.

Vitis spp., 61996, 62158.
vinifera, 62155-62157.

Walnut, *Juglans regia*, 61855, 62144-62146.

Watermelon, *Citrullus vulgaris*, 61900,
 61909-61913.

Wax gourd, *Benincasa hispida*, 61905.

Wheat, common, *Triticum aestivum*, 61857-
 61860, 62004, 62083, 62209-62211.

durum, *T. durum*, 61861-61879, 62002.

White gum, *Eucalyptus pauciflora*, 61833.

Willow, *Salix* spp., 61852, 62154.

S. matsudana, 62115.

Wingnut, Chinese, *Pterocarya stenoptera*,
 61938.

Yam, *Dioscorea* spp., 61921, 62133, 62134,
 62159.

Zanthoxylum sp., 62225.

Zea mays, 61966-61970, 62000, 62226,
 62227.

Zinnia multiflora, 61971.

Zinziber officinale, 61898.

Ziziphus jujuba, 62228.

sativa. See *Z. jujuba*.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

April 13, 1927

<i>Secretary of Agriculture</i> -----	W. M. JARDINE.
<i>Assistant Secretary</i> -----	R. W. DUNLAP.
<i>Director of Scientific Work</i> -----	A. F. WOODS.
<i>Director of Regulatory Work</i> -----	WALTER G. CAMPBELL.
<i>Director of Extension Work</i> -----	C. W. WARBURTON.
<i>Director of Information</i> -----	NELSON ANTRIM CRAWFORD.
<i>Director of Personnel and Business Adminis-</i> <i>tration</i> -----	W. W. STOCKBERGER.
<i>Solicitor</i> -----	R. W. WILLIAMS.
<i>Weather Bureau</i> -----	CHARLES F. MARVIN, <i>Chief</i> .
<i>Bureau of Agricultural Economics</i> -----	LLOYD S. TENNY, <i>Chief</i> .
<i>Bureau of Animal Industry</i> -----	JOHN R. MOHLER, <i>Chief</i> .
<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Forest Service</i> -----	W. B. GREELEY, <i>Chief</i> .
<i>Bureau of Chemistry</i> -----	C. A. BROWNE, <i>Chief</i> .
<i>Bureau of Soils</i> -----	MILTON WHITNEY, <i>Chief</i> .
<i>Bureau of Entomology</i> -----	L. O. HOWARD, <i>Chief</i> .
<i>Bureau of Biological Survey</i> -----	E. W. NELSON, <i>Chief</i> .
<i>Bureau of Public Roads</i> -----	THOMAS H. MACDONALD, <i>Chief</i> .
<i>Bureau of Home Economics</i> -----	LOUISE STANLEY, <i>Chief</i> .
<i>Bureau of Dairy Industry</i> -----	C. W. LARSON, <i>Chief</i> .
<i>Office of Experiment Stations</i> -----	E. W. ALLEN, <i>Chief</i> .
<i>Office of Cooperative Extension Work</i> -----	C. B. SMITH, <i>Chief</i> .
<i>Library</i> -----	CLARIBEL R. BARNETT, <i>Librarian</i> .
<i>Federal Horticultural Board</i> -----	C. L. MARLATT, <i>Chairman</i> .
<i>Insecticide and Fungicide Board</i> -----	J. K. HAYWOOD, <i>Chairman</i> .
<i>Packers and Stockyards Administration</i> -----	JOHN T. CAINE III, <i>in Charge</i> .
<i>Grain Futures Administration</i> -----	J. W. T. DUVEL, <i>in Charge</i> .

This inventory is a contribution from

<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Office of Foreign Plant Introduction</i> -----	DAVID FAIRCHILD, <i>Senior Agri-</i> <i>cultural Explorer, in Charge</i> .

UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 83



Washington, D. C.

Issued September, 1927

SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1925 (NOS. 63490 TO 64428)

CONTENTS

	Page
Introductory statement.....	1
Inventory.....	3
Index of common and scientific names.....	50

INTRODUCTORY STATEMENT

For the second quarter of 1925, the period represented by this inventory, the general situation in respect to foreign agricultural explorations agrees rather closely with the period represented by the preceding inventory, No. 82. Doctor Fairchild was in Algeria and Morocco, Mr. Dorsett spent most of the time in the Province of Chihli, northern China, and Mr. McClure continued his work in the Province of Kwangtung, southeastern China.

Among the plant material obtained by Doctor Fairchild in Algeria were scions of three varieties of loquats (*Eriobotrya japonica*, Nos. 63557 to 63559). These were grown at the governor general's garden at Mustapha and are said to be superior types. From Dr. L. Trabut, also at Mustapha, Doctor Fairchild obtained seeds of a hybrid eucalypt (*Eucalyptus trabuti*, No. 63581). This was discovered by Doctor Trabut in the botanic gardens in Mustapha and is said to be an unusually rapid grower.

Mr. Dorsett's collections include an interesting series of native Chinese melon varieties (*Cucumis melo*, Nos. 63702 to 63713), six native cabbagelike vegetables (*Brassica* spp., Nos. 63910 to 63915), and many local types of beans, peas, wheat, and barley, obtained largely from the native markets in the villages of Chihli Province.

In 1925, according to the Yearbook of the Department of Agriculture for that year, about 25,000 acres were devoted to the growing of green peas in the United States. In order to assist horticulturists in extending this area by breeding disease-resistant strains and strains adapted to a variety of conditions, locally developed varieties were introduced from Germany, France, Sweden, England, and New South Wales.

One of the best date varieties grown in Lower Egypt is said to be the Samany (*Phoenix dactylifera*, No. 63975), offshoots of which have been obtained from the Egyptian Ministry of Agriculture. Date culture in the southwestern portion of the United States is progressing steadily, and Old World varieties are being sought which will be best adapted for growing in the different sections.

An Australian tree from the semiarid interior of New South Wales should be of interest for growing in the drier regions of the Southwest. This is the wilga (*Geijera parviflora*, No. 64000), a low tree resembling the weeping willow. The leaves of this drought-resistant tree are fed to cattle in New South Wales.

A collection of *Crotalarias* (Nos. 64058 to 64065) and one of *Crotalarias* and *Sesbans* (Nos. 64066 to 64070), the former from South Africa and the latter from Egypt, will be tested in the Southern States as cover plants and as forage.

Through the courtesy of Em. Miège, Chief of the Service de l'Expérimentation Agricole of Morocco, seeds have been obtained of a noteworthy cotton variety (*Gossypium* spp., Nos. 64002 and 64003). This variety is called "Sar-sar," from the name of the tribe which has grown it from time immemorial in the interior of Morocco. Because of its unusual precocity, resistance to drought, and length and strength of fiber, comparable to that of the Yuma variety, it should be of interest to cotton breeders in this country.

Bureau specialists testing rubber-producing plants will be interested in the several introductions of *Landolphias* from tropical Africa, *Funtumia elastica* (No. 63786) from the Gold Coast Colony, Africa, and Ceara rubber (*Manihot glaziovii*, No. 63798), one of the important Brazilian rubber-producing plants.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE,

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., February 3, 1927.

INVENTORY¹

63490 to 63495. SOLANUM TUBEROSUM L. Solanaceae. Potato.

From Paris, France. Tubers purchased from Vilmorin-Andrieux & Co. Received May 6, 1925.

Locally developed varieties.

63490. *Chardon*.

63491. *Général Authaine*.

63492. *Institut de Beauvais*.

63493. *Maréchal Foch*.

63494. *Maréchal Joffre*.

63495. *Saucisse*.

63496. LILIUM CROCEUM Chaix. Liliaceae. Lily.

From Stuttgart, Germany. Bulbs purchased from Wilhelm Pfitzer. Received May 21, 1925.

Horticulturists engaged in lily-breeding experiments in the United States are endeavoring to obtain material of *Lilium bulbiferum*. This is said to be offered in the trade in Europe as *L. croceum*, the orange lily, and material of the latter is now being introduced for comparison tests.

63497. THUNBERGIA GRANDIFLORA Roxb. Acanthaceae.

From Kingston, Jamaica. Cuttings presented by W. S. Goodman, superintendent, Hope Gardens. Received May 2, 1925.

Variety *alba*. The typical form of *Thunbergia grandiflora* is well known in tropical gardens, where it is highly esteemed for its large, sky-blue flowers and the ornamental effect of its foliage. The white form (variety *alba*) is less widely cultivated, though perhaps as meritorious as the type. It is a strong-growing climber, useful for covering pergolas and fences, and is sufficiently frost resistant for cultivation in the warmer parts of Florida and the most favored sections of southern California. (Note by Wilson Popenoe under *S. P. I.* No. 57216.)

63498 and 63499.

From Matania el Saff, Egypt. Seeds presented by Alfred Bircher, director, Middle Egypt Botanic Station. Received April 28, 1925.

63498. ONCoba SPINOSA Forsk. Flacourtiaceae.

The discovery of chaulmoogric acid in the seeds of *Oncoba echinata* has prompted the testing of other species of the same genus for the presence of this acid, now used in the treatment of leprosy. *O. spinosa* is described (Flora of Tropical Africa, vol. 1, p. 115) as a spiny shrub with elliptic, membranous leaves and showy, fragrant, white flowers about 2 inches across. The round, hard-shelled fruit, 2 inches in diameter, is eaten by the natives of tropical Africa, where the shrub is indigenous. The shells are often used as ornaments.

63499. SCLEROCARYA BIRREA (A. Rich.) Hochst. Anacardiaceae.

A tropical African tree 25 to 50 feet tall, with leathery pinnate leaves and light-yellow round fruits about an inch in length. The sweet resinous flesh incloses a stony nut containing two to four seeds which have a flavor similar to that of walnuts and are a favorite food of the natives of Abyssinia.

63500 to 63521. DIOSPYROS KAKI L. f. Diospyraceae. Kaki.

From Nanking, China. Scions presented by M. Leslie Hancock, University of Nanking. Received April 1, 1925.

These scions are from our persimmon orchard here at the university; the material was received from many sources, and there are probably several duplications in the collection. (Hancock.)

63500. No. 6.	63505. No. 13.
63501. No. 7.	63506. No. 15.
63502. No. 10.	63507. No. 16.
63503. No. 11.	63508. No. 17.
63504. No. 12.	63509. No. 18.

¹ It should be understood that the names of varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications, therefore, must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

63500 to 63521—Continued.

63510. No. 19.	63516. No. 28.
63511. No. 20.	63517. No. 29.
63512. No. 21.	63518. No. 31.
63513. No. 23.	63519. No. 32.
63514. No. 24.	63520. No. 33.
63515. No. 27.	63521. No. 34.

63522 to 63541. *HELIANTHUS TUBEROSUS* L. Asteraceae. Jerusalem artichoke.

From Paris, France. Tubers obtained from Vilmorin-Andrieux & Co., through D. N. Shoemaker, Bureau of Plant Industry. Received April 1, 1925.

Locally grown strains.

63522. No. 3/21.	63532. No. 21/23.
63523. No. 4/21.	63533. No. 26/23.
63524. No. 8/21.	63534. No. 27/23.
63525. No. 10/23.	63535. No. 29/23.
63526. No. 14/23.	63536. No. 30/23.
63527. No. 15/22.	63537. No. 33/23.
63528. No. 16/22.	63538. No. 35/23.
63529. No. 12/23.	63539. No. 38/23.
63530. No. 18/23.	63540. No. 43/23.
63531. No. 19/22.	63541. No. 45/23.

63542 to 63544. *SOLANUM TUBEROSUM* L. Solanaceae. Potato.

From Klein Wanzleben, Germany. Tubers presented by Dr. Phil. Oskar Rabbethge. Received April 2, 1925. Notes by Doctor Rabbethge.

European varieties, not in the American trade, introduced for potato-breeding experiments.

63542. *Centifolia*. A cross between Boreken and Flora, originated by the plant breeder Von Kameke. It is a red-skinned, white-fleshed table variety, and is very healthy. Season medium and yield large.

63543. *Industry*. A cross between Richter's Early and Simon, originated by the plant breeder Modrow. It is grown on heavy soil. In western Germany it is the predominating yellow-fleshed table variety. It is a heavy yielder, matures late, but is susceptible to rot.

63544. *Pepo*. A cross between Deutsches Reich and Jubel, originated by the plant breeder Von Kameke. A light yellow-fleshed table variety, of very large yield. Resistant to rot and scarcely susceptible to fungous diseases; very resistant to wart disease. The lilac-colored flowers are inclined to vary.

63545. *TRIFOLIUM REPENS* L. Fabaceae. White clover.

From Edinburgh, Scotland. Plants presented by William Wright Smith, regius keeper, Edinburgh Botanic Garden. Received April 4, 1925.

Obtained from the Scottish Board of Agriculture. (Smith.)

Sent in response to a request for material of the brown-leaved strain of white clover; to be tested by clover specialists.

63546. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Fortuna, Porto Rico. Cuttings presented by I. Mutz, through E. W. Brandes, Bureau of Plant Industry. Received April 1, 1925.

H 109.

A locally developed strain.

63547 and 63548. *PISUM SATIVUM* L. Fabaceae. Pea.

From Valence sur Rhone, France. Seeds obtained from Tézier Frères. Received April 2, 1925.

Locally grown strains.

63547. *Mange-tout violet*.

63548. *Serpette française*. An improved form with long pods.

63549. *ELEOCHARIS TUBEROSA* (Roxb.) Schult. Cyperaceae.

From Canton, China. Tubers collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 3, 1925.

No. 29. *Ma tai, Hon ma tai*. A variety of ma tai which differs in its cultural methods from the ordinary variety in that the irrigation water is withdrawn some time before the crop is ripe. The harvesting method is affected profoundly because with the variety commonly grown around Canton the crop is searched for blindly by women standing knee deep in mud and water, but with this variety the harvesting is done with a hoe, resulting in much less expenditure of labor. The culture of ma tai is rather complicated in that the corms are put through two preliminary "plantings" before they finally reach the field in which they produce. At the end of June or early in July the corms are set thickly in a bed and barely covered with soil. They are kept moist, and when their sprouts are 6 or 7 centimeters long they are transplanted to a wet culture plot and set about 1 foot apart each way. When the sprouts are about 30 centimeters high they are again transplanted to a wet culture field, usually one from which the first rice crop has just been harvested, and this time set about 3 feet apart in rows 3 feet apart, and alternated so that each plant is equally distant from all of its adjacent neighbors. Henceforth they are irrigated much the same as rice. When the plants become established each is given a small handful of powdered bean or peanut cake. The irrigation is discontinued in October. (McClure.)

63550. *CITRUS AURANTIUM* L. Rutaceae. Sour orange.

From Algeria. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925.

From the Jardin d'Essais, Maison Carree. To be tested by citrus growers as a rootstock in comparison with strains of the same species already growing in the United States.

63551. *ALPINIA* sp. Zinziberaceae.

From Kwangtung Province, China. Rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 3, 1925.

63551—Continued.

No. 28. January 17, 1925. Obtained from the village of Taichong. *Wong keung*. This is an important crop in this region, one village having harvested this year 1,000 mau [approximately 2 acres]. The yield is from 30 to 50 piculs [3,570 to 5,950 pounds] of the fresh rhizomes per mau [about one-sixth acre]. When dried, in preparation for the market, the rhizomes shrink from 25 to 30 per cent. The rhizomes are planted during April, sandy soil being preferred, about 10 inches apart in rows 14 inches apart, of which two occupy each raised bed. The number of rhizomes planted on each mau varies between 3,000 to 5,000, depending upon the richness of the soil. (*McClure*.)

63552. *NERIUM OLEANDER* L. Apocynaceae. Oleander.

From Algeria. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925.

Seeds from wild plants growing in the Oasis of Bou Saada. To be tested for resistance to scale infestation.

63553. *GOSSYPIUM HIRSUTUM* L. Malvaceae. Cotton.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co., through Walter T. Swingle, Bureau of Plant Industry. Received April 6, 1925.

Coton Yerli.

To be tested by cotton specialists.

63554 to 63560.

From Algeria. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925. Notes by Doctor Fairchild.

63554. *BOUGAINVILLEA WARSZEWICZII* Hort. Nyctaginaceae.

Cuttings of a horticultural variety of this gorgeous flowering climber. Instead of flowering feebly all through the season, this form bursts into bloom in the spring with a perfect mass of magenta flowers which completely hide the plant, and then it does not flower until the following spring.

63555 and 63556. *DIOSPYROS SINENSIS* Hemsl. Diospyraceae.

Trees grown from seed of fruits produced by a single tree in Galland Park, Algiers. Doctor Trabut says the fruits are especially fine, and Mrs. M. J. Melia, the wife of the head gardener of Galland Park, declares that they are finer flavored than any of the kaki she has eaten. I think this is the white-barked persimmon which Frank Meyer saw used as a stock for the kaki in Nanchow, south of Shanghai.

63555. Plants. 63556. Scions.

63557 to 63559. *ERIOBOTRYA JAPONICA* (Thunb.) Lindl. Malaceae. Loquat.

These scions are from the governor general's garden in Mustapha.

63557. Since this variety did not have a name, I called it "Governor General." The head gardener said that it produced very delicious fruits much larger than the Tanaka, but that they were not good for shipping.

63554 to 63560—Continued.

63558. This variety, which Doctor Trabut calls the "Tanaka" and which he says came direct from Japan, has elongated fruits. According to Doctor Trabut it is the best of all the varieties for shipping.

63559. *Tanaka Type Improved*. According to M. J. Melia, head gardener, Galland Park, Algiers, this is a seedling from Tanaka and is larger fruited but not so good a shipper.

63560. *FICUS NITIDA* Blume. Moraceae.

Cuttings of the broad-leaved type which has been found far superior as a street tree here. It is called "Camellia" by Doctor Trabut and "Laevigata" by Mr. Melia.

63561 to 63568. *PISUM SATIVUM* L. Fabaceae. Pea.

From Trier, Germany. Seeds obtained from J. Lambert & Son, through D. N. Shoemaker, Bureau of Plant Industry. Received April 7, 1925.

Locally developed strains.

63561. *Rival*.

63562. *Schalerbsen*.

63563. *Schweizer Riesen*.

63564. *Staatsminister Eyschen*.

63565. *Trierer Bristallglas*.

63566. *Verbesserte Flämische Riesen*.

63567. *Vorbote* (Eclipse).

63568. *Yuni Schwert*.

63569 and 63570. *PISUM SATIVUM* L. Fabaceae. Pea.

From Göteborg, Sweden. Seeds obtained from Göteborgs Tradgardsforening, through D. N. Shoemaker, Bureau of Plant Industry. Received April 7, 1925.

Locally developed strains.

63569. *Såbe Svenske*.

63570. *Sockerart smor*.

63571. *FRAGARIA* sp. Rosaceae. Strawberry.

From Orleans, France. Plants purchased from Barbier & Co. Received April 9, 1925.

Eugene Transon. This dwarf variety, with very thick, short flower stems, bears bright red, superb fruits which are enormous, nearly as big as Mademoiselle Moutot, but of a more regular shape, resembling Docteur Morère. The firm, sweet, melting flesh is a rosy salmon and richly perfumed. This is a mid-early sort and especially noted for its early crop. (*Catalogue of Barbier & Co.*)

63572 to 63577. *PISUM SATIVUM* L. Fabaceae. Pea.

From Lyon, France. Seeds obtained from Leonard Lille, through D. N. Shoemaker, Bureau of Plant Industry. Received April 6, 1925.

Locally developed strains.

63572. *Du Chemin Long*, No. 10106.

63573. *Mangetout Beurre*, No. 10337.

63572 to 63577—Continued.

63574. *Nain de Gonthier ou de Paris*, No. 10088.

63575. *Nain Leveque*, No. 10150.

63576. *Petit Provençal*, No. 10091.

63577. *Serpette d'Auvergne à très longue cosse*, No. 9884.

63578 and 63579. *PISUM SATIVUM* L.
Fabaceae. Pea.

From Manchester, England. Seeds obtained from Dickson, Brown, & Tait, through D. N. Shoemaker, Bureau of Plant Industry. Received April 6, 1925.

Locally developed strains.

63578. *Centenary*.

63579. *St. Duthus*.

63580. *ARRACACIA XANTHORRHIZA* Bancroft (*A. esculenta* DC.).
Apiaceae. Arracacha.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received April 9, 1925.

The arracacha is a perennial herbaceous plant, closely related to the carrot and indigenous to the higher altitudes of northern South America. It grows about 3 feet high, with carrotlike foliage and small umbels of purple flowers. The large fleshy roots are important food in parts of South America and Central America; they are eaten boiled like parsnips or sliced raw and fried, and are said to be very palatable either way. Propagation is affected by making cuttings of the crown with a small piece of the root attached.

63581. *EUCALYPTUS TRABUTI* Vilm. Myrtaceae.

From Mustapha, Algeria. Seeds collected by Dr. L. Trabut and presented through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 7, 1925.

Collected in the botanic gardens of the university, February 23, 1925. A remarkable hybrid between *Eucalyptus botryoides* Sm. (pistillate) and *E. rostrata* Schlecht (staminate) discovered by Doctor Trabut. The characters of the leaves are intermediate; the capsules could not well be more nearly intermediate. The great value of this hybrid is in its unusually rapid growth. (Fairchild.)

For previous introduction see S. P. I. No. 45769.

63582 and 63583.

From Amani, Tanganyika Territory, Africa. Seeds presented by A. H. Kirby, Director of Agriculture. Received April, 1925.

63582. *ALBIZZIA CHINENSIS* (Osbeck) Merr. (*A. stipulata* Boiv.).
Mimosaceae. No. 20.

A large, rapidly growing tree, native to the subtropical regions of eastern India. It is said by Watt (Dictionary of the Economic Products of India) to have been found very satisfactory in Assam as a shade tree for tea. The

63582 and 63583—Continued.

roots do not penetrate the soil deeply, and the foliage does not make a dense shade.

For previous introduction see S. P. I. No. 61480.

63583. *CHRYSOPHYLLUM MONOPYRENUM* Swartz. Sapotaceae. Satin leaf.
No. 236.

An ornamental West Indian tree, up to 35 feet high, with broad green leaves, rusty white beneath, small white flowers, and oblong blackish berries about an inch and a half long.

For previous introduction see S. P. I. No. 45107.

63584. *SYRINGA SWEGINZOWII* Koehne and Ling. Oleaceae. Lilac.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 16, 1925.

An attractive hardy lilac, about 10 feet high, from western China. The dark-green, oval leaves are 2 to 4 inches long, and the fragrant, rosy lilac flowers are borne during June in terminal panicles up to 10 inches in length.

63585. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Montlucon, Allier, France. Seeds obtained from G. & M. Peronnin, through A. J. Pieters, Bureau of Plant Industry. Received April 23, 1925.

A locally developed strain.

63586. *BOUEA OPPOSITIFOLIA* (Roxb.) Meissn. (*B. burmanica* Griffith).
Anacardiaceae. Maprang.

From Bangkok, Siam. Seeds presented by Dr. Yai S. Sanitwongse. Received May 16, 1925.

One of the wild relatives of the mango (*Mangifera indica*) is the maprang, an evergreen tree of moderate height, native to Burma and the Andaman Islands. The narrowly elliptic, pale-green, leathery leaves are opposite, and the small yellow flowers are produced in slender, lax, few-flowered panicles. There is considerable variation in the size and quality of the edible, yellow fruits. According to Doctor Sanitwongse, the trees grown in Burma and Indo-China bear only very small fruits which are very sour. In Siam, however, where the tree is cultivated in alluvial soil, with river irrigation, the fruits are large, light yellow, and have a flavor resembling that of a yellow plum or apricot. The hard, gray wood is said to be very durable. The tree may possibly be sufficiently hardy for growing in southern Florida.

For previous introduction see S. P. I. No. 55046.

63587. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.).
Fabaceae. Soy bean.

From London, England. Seeds presented by Dr. J. L. North, curator, Royal Botanic Gardens. Received May 16, 1925.

Grown at Budapest, Hungary, from seed obtained in Siberia. (North.)

63588. JUGLANS sp. Juglandaceae.
Walnut.

From Ibarra, Ecuador. Seeds presented by José Felix Tamayo. Received June 17, 1925.

The tocte is an Ecuadorian tree which closely resembles the black walnut, but the leaves are somewhat larger. The nuts are an inch and a half in diameter, with a very thick, bony shell and a kernel of mild, pleasant flavor. The wood is hard and fine grained. Although the nuts are very popular in parts of Ecuador, the tree is not cultivated, but grows wild around cultivated fields and dooryards.

63589 to 63599.

From Ayr, Scotland. Seeds purchased from McGill & Smith. Received April 7, 1925.

Locally grown seeds.

63589. ANTHYLLIS VULNERARIA L. Fabaceae. Kidney vetch.

63590 to 63595. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

63590. English broad leaved.

63591. English late flowering.

63592 and 63593. Harvested in Switzerland at an altitude of 3,000 feet. (McGill & Smith.)

63592. Mountain red clover No. 1.

63593. Mountain red clover No. 2.

63594. Welsh.

63595. Wild.

63596 to 63599. TRIFOLIUM REPENS L. Fabaceae. White clover.

63596. English giant.

63597. English.

63598. New Zealand.

63599. Wild.

63600. TRIFOLIUM REPENS L. Fabaceae.
White clover.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Edinburgh Botanic Garden. Received April 6, 1925.

Mixed natural seed harvested at the Edinburgh Plant-Breeding Station in 1923 from a large number of plants of wild white clover which were originally taken from Orkney, Shetland, Caithness, and the north of Scotland. (Smith.)

Sent in response to a request for material of the brown-leaved strain of white clover.

63601. PASSIFLORA EDULIS Sims. Passifloraceae. Purple granadilla.

From Epping, New South Wales, Australia. Seeds presented by L. P. Rosén & Son. Received April 7, 1925.

Perfecta. An improved strain of the granadilla or passion fruit. (Rosén.)

63602 to 63604. COFFEA spp. Rubiaceae. Coffee.

From Mayaguez, Porto Rico. Seeds presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received April 1, 1925.

63602 to 63604—Continued.

63602. COFFEA EXCELSA Cheval.

According to the Philippine Review, vol. 9, p. 121, this coffee thrives from sea level to 700 meters, succeeds well on rather stiff clayey soils, and is the most resistant to blight and drought of any coffee. It might be grown with an annual rainfall of 48 inches. It is of strong vigorous growth and produces 1 kilogram of dried coffee from 7 to 8 kilograms of fresh berries. *Coffea excelsa* makes an excellent stock for other coffees. The first crop is obtained at the age of 4 to 5 years and a full crop at the age of 7 to 8 years.

For previous introduction see S. P. I. No. 57271.

63603. COFFEA LAURENTII Wildem. (C. robusta Hort.).

A white-flowered shrub, native to Belgian Congo, with oval dark-green leaves up to a foot in length and shortly elliptic 2-seeded fruits. The roundish seeds are sometimes nearly half an inch long.

For previous introduction see S. P. I. No. 57272.

63604. COFFEA sp.

Received as *Coffea dybowski*, for which a place of publication has not been found.

63605. INDIGOFERA ENDECAPHYLLA Jacq. Fabaceae.

From Peradeniya, Ceylon. Seeds presented by H. A. Deutrom, acting manager of the experiment station, at the request of F. A. Stockdale, Director of Agriculture. Received April 4, 1925.

An annual or biennial leguminous plant which has become popular as a cover plant in Ceylon, according to the Tropical Agriculturist (vol. 63, October, 1924). The trailing stems are 1 to 2 feet long, and the violet-purple flowers are in dense racemes.

63606. HELIANTHUS TUBEROSUS L. Asteraceae. Jerusalem artichoke.

From Montreal, Canada. Tubers obtained from the William Ewing Co. Received April 13, 1925.

Locally grown tubers.

63607 to 63609. PRUNUS ARMENIACA L. Amygdalaceae. Apricot.

From Yugakujo, Manchuria. Scions presented by Dr. R. Watanabe, director, Southern Manchurian Agricultural Experiment Station. Received April 15, 1925.

Manchurian varieties.

63607. Chin chou ta hsing.

63608. Erh hsing mei.

63609. Li tzu hsing.

63610 to 63617. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Rio Piedras, Porto Rico. Cuttings presented by the Insular Experiment Station, through E. W. Brandes, Bureau of Plant Industry. Received April 15, 1925.

Locally developed strains.

63610 to 63617—Continued.

- | | |
|--------------------------|--------------------------|
| 63610. <i>H. 109.</i> | 63614. <i>P. R. 328.</i> |
| 63611. <i>B. 11569.</i> | 63615. <i>P. R. 492.</i> |
| 63612. <i>P. R. 433.</i> | 63616. <i>P. R. 543.</i> |
| 63613. <i>P. R. 729.</i> | 63617. <i>P. R. 358.</i> |

63618 to 63621. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Fajardo, Porto Rico. Cuttings presented by the Fajardo Sugar Co., through E. W. Brandes, Bureau of Plant Industry. Received April 15, 1925.

Locally developed strains.

- | | |
|--------------------------|--------------------------|
| 63618. <i>F. C. 462.</i> | 63620. <i>F. C. 306.</i> |
| 63619. <i>F. C. 86.</i> | 63621. <i>F. C. 305.</i> |

63622 to 63627.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 3, 1925. Notes by Mr. McClure.

63622. *CANARIUM PIMELA* Koen. Balsameaceae.

No. 53. Foh Tsun, Lohkongtang, Kwangtung. December 5, 1924. *U lam.* The fruits, black when ripe, exude a viscous, milky juice with a pungent flavor when the skin is broken. They are commonly eaten after having been scalded for a moment and flavored with soy sauce or sugar. In preparing them for the market the fruits are scalded, the seeds removed, and the flesh dried in the sun.

63623. *CELASTRUS HINDSII* Benth. Celastraceae.

No. 55. Honam Island. January 2, 1925. *Tsing kung tang.* A half-woody, slender vine, 2 to 4 meters long, growing wild on trees and shrubs in poor soil, chiefly granite clay. It is an attractive ornamental with bright reddish orange seeds which are exposed at maturity by the splitting of the pod into a three-pointed star.

63624. *DESMOS CHINENSIS* Lour. Annonaceae.

No. 57. Honam Island. January 2, 1925. *Ka ying chau.* A shrub, 1 to 2 meters high, growing wild in a shady place along the roadside in clay soil. The very fragrant, greenish yellow flowers are followed by curious clusters of attractive fruits which turn from yellow to red and are composed of many moniliform pods radiating from a short peduncle.

63625. *GLEDITSIA FERA* (Lour.) Merr. (*G. australis* Hemsl.). Caesalpinaceae.

Honey locust.

No. 59. *Tai ip ying.* A large tree growing wild on Honam Island, valuable as a lumber tree and as an ornamental.

63626. *ILEX ROTUNDA* Thunb. Aquifoliaceae.

No. 48. Honam Island. January 2, 1925. *Pak lan heung.* A small wild shrub, usually less than 1 meter high, with glossy foliage and attractive red fruits.

63627. *MUSSAENDA* sp. Rubiaceae.

No. 51. Honam Island. December, 1924. *Pak chi sin.* A wild ornamental vine with inconspicuous yellow flowers and conspicuous white bracts.

63628. *CALYCOPHYLLUM CANDIDISSIMUM* (Vahl) DC. Rubiaceae.

From Summit, Canal Zone. Seeds presented by Holger Johansen, Plant Introduction Garden. Received June 12, 1925.

A Central American timber tree known commercially as the degame is described by S. J. Record (Timbers of Tropical America, p. 547) as being 40 to 65 feet high, with a straight trunk free from limbs. The wood has the strength, toughness, and resilience of hickory and is used for making agricultural implements, tool handles, and similar articles.

63629 to 63650.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 3, 1925. Notes by Mr. McClure.

63629. *MYROXYLON SENTICOSUM* (Hance) Warb. (*Xylosma senticosum* Hance). Flacourtiaceae.

No. 50. Near Chukliu, Kwangtung. January 18, 1925. *Kai na lak.* A very ornamental and large shapely shrub or small tree, having dense glossy foliage and producing an abundance of small dark-red fruits which are borne in short-stemmed clusters along the branches.

63630. *PANDANUS* sp. Pandanaceae.

No. 43. Lam'tau Island, Hong Kong Colony. December, 1924. *Lo tau lak. Lak poh loh.* This plant is widely used by the Chinese as a hedge. The long ribbonlike leaves are stripped of their marginal and midrib hooks, rolled into "spools," dried, and used to weave a coarse matting, and in a few instances they are used for hats.

63631. *PSYCHOTRIA ELLIPTICA* Ker. Rubiaceae.

No. 54. Honam Island, Kwangtung. January 2, 1925. An attractive ornamental 1 to 6 meters high, growing wild in a ferruginous sandy clay loam and having large leaves and rather inconspicuous white flowers. The clusters of fruits are at first yellow, turning red in the autumn.

63632. *RAPHIOLEPIS INDICA* (L.) Lindl. Malaceae.

No. 49. Honam Island, Kwangtung. January 2, 1925. *Ch'un fa.* This very pretty little shrub, which was found wild, produces clusters of delicate pink flowers that are reminiscent of cherry blossoms, and berries which become red in the autumn.

63633. *SMILAX* sp. Smilacaceae. Smilax.

No. 56. From the wild near Fohtsuen, Kwangtung. December 5, 1924. *Ma kap.* A sturdy glossy-leaved vine bearing in the autumn an abundance of brilliant red berries in dense umbels. This fine ornamental seems to thrive equally well on any soil and grows naturally under very difficult conditions on starved clay soil in burned or cut-over places.

63634 and 63635. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

63634. No. 30. Kochau, Kwangtung. *Luk tau.* Compared with the other varieties, *luk tau* is very small and cylindrical, and, as its name suggests, it is dark green. It is harvested twice a year, June and September, and is used in many forms, the chief of which are flour and sprouts.

63629 to 63650—Continued.

63635. No. 31. From the vicinity of Shiuhing, on the West River, Kwangtung. *Shiuhing luk tau*. This variety is harvested twice yearly, June and September, and is used in the same ways as No. 30 [S. P. I. No. 63634].
- 63636 to 63642. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.
63636. No. 32. Kochau, Kwangtung. *Tsing tau*. A small light-green bean which is harvested and used in the same ways as No. 30 [S. P. I. No. 63634].
63637. No. 35. Pakmiu, Heungshan district, Kwangtung. *Hak tau*. This variety, harvested during July, produces black seeds which are flatter and more elliptical than the other varieties. These seeds are used mostly as "hung tau" in boiled dishes.
63638. No. 36. From the vicinity of Shiuhing, on the West River, Kwangtung. *Shiuhing hak tau*. Harvested during June or July, and used the same as No. 35 [S. P. I. No. 63637].
63639. No. 37. Kochau, Kwangtung. *Tai u tau*. Harvested during June or July and used the same as No. 35 [S. P. I. No. 63637].
63640. No. 39. Kochau, Kwangtung. *Wong tau*, *Pak tau*. These beans are nearly globular and yellow, and are harvested twice annually, during June or July and September or October. They are used in making bean curd and for the oil contained in them, though in this region they are rarely ever used for the latter.
63641. No. 40. The Canton Christian College Agricultural Department Gardens. *Pak tau*, *Wong tau*. This white or yellowish white bean, is harvested in June or July, and the chief uses are the making of bean curd and of a soy sauce or "pak yau."
63642. No. 41. Kolu, Kwangtung. *Pak tau*. These beans are whiter than No. 39 [S. P. I. No. 63640] and have a suggestion of an "eye" around the hilum. Harvesting and use the same as No. 39.
63643. STIZOLOBIUM DEERINGIANUM Bort. Fabaceae.
No. 43. Canton Christian College Farm. January 20, 1925. *Kau tsau tau*. This vine grows from 2 to 3 meters in length and is harvested once a year. The Chinese farmers around Tsinguen and Linchow soak the vines and beans in water and use them as fertilizer, but the method used at the college is to plow them under as green manure. This variety makes a very heavy growth and is considered a valuable crop for the purpose of fertilizing.
- 63644 and 63645. TERMINALIA CHEBULA Retz. Combretaceae.
63644. No. 44. Kongtau village, Loh-kongtung, Kwangtung. December 5, 1924. *Ho tsai*. The flesh of the fruits is crushed and steeped in a small quantity of water, and the liquid that is drained off is used as a gray dye.

63629 to 63650—Continued.

63645. No. 45. Kongtau village, Loh-kongtung, Kwangtung. December 5, 1924. *Yuk hoh tsz*. Used in the same manner as No. 44 [S. P. I. No. 63644].
- 63646 to 63648. VIGNA CYLINDRICA (Stickm.) Skeels. Fabaceae. Catjang.
63646. No. 33. Pakmiu, Heungshan District, Kwangtung. *Hung tau*. This variety, which takes its name from the red color of the skin covering the seed, is harvested in June. The uses, which are not so varied as those of the others, are mostly in boiled dishes, alone with sugar, and for making soup.
63647. No. 34. Tsangshing, Kwangtung. *Hung kong tau*. Harvested in June and used in the same manner as No. 33 [S. P. I. No. 63646].
63648. No. 38. *Min tau*. This variety is characterized by a black "eye" around the hilum. Harvested during June or July and used in the same way as No. 33 [S. P. I. No. 63646]. It is considered by some to be useful in the treatment of rheumatism, and rice wine in which this bean has been boiled is used as a general tonic.
63649. VITEX NEGUNDO INCISA (Lam.) C. B. Clarke. Verbenaceae.
No. 47. Honam Island. December, 1924. *Hut kin shau*. This half-woody wild shrub is used by the Chinese as an astringent in the case of an open wound. The leaves are fragrant when crushed, and the pale-blue flowers are produced in terminal spikes.
63650. VITEX TRIFOLIA L. Verbenaceae.
No. 58. *Pak muk ying*. A shrub 2 to 3 meters high cultivated for drug purposes in a garden on Honam Island. The leaves have a dense white pubescence which gives the plant a grayish appearance; the flowers are light blue.
- 63651 to 63661. FRAGARIA spp. Rosaceae. Strawberry.
From Orleans, France. Plants purchased from Léon Chénault & Fils. Received April 16, 1925.
European varieties not known in the American trade.
63651. FRAGARIA sp.
Lucida Californica.
63652. FRAGARIA sp.
Chanteclair.
63653. FRAGARIA sp.
Gemma. Very vigorous, everbearing; fruits large and white, with little fiber. (*Catalogue of Millet & Fils.*)
63654. FRAGARIA sp.
Général de Castelnau. An everbearing very productive variety. Fruit larger than that of La Perle, dark red, very juicy, sweet, and firm. (*Grandes Roses-raises du Val de la Loire Catalogue.*)
For previous introduction see S. P. I. No. 59798.
63655. FRAGARIA sp.

63651 to 63661—Continued.

Madame Meslé. A very vigorous giant variety with enormous brilliant vermillion red fruits with pink flesh; a good commercial variety of large yield. Season medium. (*Catalogue of Millet & Fils.*)

For previous introduction see S. P. I. No. 56155.

63656. FRAGARIA sp.

Madame Moutot. A giant variety with enormous spherical red fruits; flesh light salmon. Quality excellent. (*Catalogue of Millet & Fils.*)

63657. FRAGARIA sp.

Marguerite Chabert. Fruit conical, very large, dark red; flesh pink. (*Catalogue of Rivoire Père & Fils.*)

63658. FRAGARIA sp.

Marguerite Lebreton. A very early variety with abundant elongated fruits. One of the best forcing varieties. (*Catalogue of Millet & Fils.*)

For previous introduction see S. P. I. No. 56157.

63659. FRAGARIA sp.

The Indispensable. An everbearing, very prolific variety, quite hardy; the plant does not disappear in winter. The fruits are larger than those of Docteur Morère, juicy, sweet, with firm red flesh of fine quality, and stands shipping well. It bears from June until frost. (*Edmond Versin, Orleans, France.*)

For previous introduction see S. P. I. No. 62521.

63660. FRAGARIA sp.

White Pineapple. Fruits white, very large. (*Catalogue of Millet & Fils.*)

63661. FRAGARIA sp.

Zoulon.

63662. SAXIFRAGA PURPURASCENS Hook. f. and Thoms. Saxifragaceae.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received August 2, 1922. Numbered April, 1925.

This beautiful species comes from the temperate regions of the Sikkim Himalaya, where it was discovered growing in wet places at an altitude of from 10,000 to 14,000 feet. Though closely allied to the Himalayan *Saxifraga ligulata* and the Siberian *S. crassifolia*, it is quite different from, and far more beautiful than, either of those species. Nothing indeed can exceed the bright glossy green of the leaves, which are elegantly margined with red, or the deep, bright, vinous red-purple of its scape and inflorescence. (*Curtis's Botanical Magazine*, pl. 5066.)

For previous introduction see S. P. I. No. 39074.

63663 to 63667.

From Vineland Station, Ontario, Canada. Plants presented by F. E. Palmer, director, Horticultural Experiment Station. Received April 13, 1925. Notes from The Canadian Horticulturist, vol. 47, no. 4, unless otherwise stated.

63663 to 63667—Continued.

63663. FRAGARIA sp. Rosaceae.

Strawberry.

Valonia. A cross between Dunlap and Early Ozark. It is a vigorous grower, with perfect flowers, and is productive. In season it is two or three days earlier than Dunlap. The fruits are of medium size, bright red, moderately firm, and fair to good in quality.

63664. FRAGARIA sp. Rosaceae.

Strawberry.

Vanguard. A cross between Pocomo and Early Ozark. The plants are vigorous, healthy, and productive, with perfect flowers. The ripening season is about a week before Dunlap. The fruits are of medium size, round-conic, regular in shape, bright red, firm, and of good quality, being sweeter than most early varieties.

63665. FRAGARIA sp. Rosaceae.

Strawberry.

Vantage. A cross between Williams and Early Ozark. Described (Report of the Vineland Station to the Ontario Department of Agriculture for 1919) as a vigorous grower, with early-maturing bright-pink fruits which retain their color in storage. Quality fair.

63666. RUBUS sp. Rosaceae. Raspberry.

Viking. A red raspberry (No. 14038), the result of a cross between Cuthbert and Marlboro. It is intermediate in character between the two parents. It is very vigorous, the canes being both stouter and taller than Cuthbert. There is very little tendency to droop over and hide the fruits, as does the Cuthbert, picking thus being an easier operation. The canes are almost entirely free of spines. In hardness, from present observation, it is about the same as Cuthbert, or a little better. The fruit is as large as or larger than Cuthbert, firm, and should be good for shipping. In color the fruit more or less resembles Marlboro, being lighter than Cuthbert.

63667. FRAGARIA sp. Rosaceae.

Strawberry.

No. 19322. This variety has not been sufficiently tested to decide definitely as to its value, but it looks promising as an early berry for local markets. It is vigorous, productive, and a good plant maker. The fruit is of good quality and appearance, though possibly lacking in firmness for distant shipping.

63668 and 63669.

From Algeria. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April, 1925. Notes by Doctor Fairchild.

63668. CASUARINA sp. Casuarinaceae.

Near Maison Carree, March 13, 1925. Related to *Casuarina suberosa*, but distinct in having shorter cones. This attractive spreading tree was growing in the grounds of a famous French botanist who was the first president of the Société Botanique de France.

63669. TRIFOLIUM ALEXANDRINUM L. Fabaceae.

Berseem.

From Boufarik. Doctor Trabut has made a real success of the berseem even though it has been subjected to temperatures much below freezing. This seed

63668 and 63669—Continued.

was presented by J. Paulian, manager of the Domaine Ste. Marguerite, who is delighted with it as a green feed for cattle.

63670 to 63672.

From Algeria. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925. Notes by Doctor Fairchild.

63670. *COTULA CINEREA* Delile. Asteraceae.

In France and Algeria it is the custom to take various kinds of so-called "tisanes," herb teas made of infusions of aromatic herbs. Doctor Trabut has presented these seeds with the recommendation of his own experience.

63671. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushaw.

Seeds of the *Courge Bedouin* or "Bedouin squash," purchased in a market in Algiers. The seeds of this variety are confined to one end of the elongated fruit, the other end being solid flesh. In shape it resembles a short club.

63672. *KOELERIA SETACEA* (Pers.) DC. Poaceae. Grass.

These roots are from the driest rocky clay soils of the mountains near Bou Saada, where this grass forms small patches of compact tufts, dark green in color. During the summer the plants must have been subjected to an intense heat and completely dried out.

63673 to 63675. *TRIFOLIUM* spp. Fabaceae.

From Ayr, Scotland. Seeds purchased from McGill & Smith. Received April 9, 1925.

Locally grown seeds.

63673 and 63674. *TRIFOLIUM PRATENSE* L. Red clover.

63673. *Montgomery*.

63674. *Vale of Clwyd*.

63675. *TRIFOLIUM REPENS* L. White clover.

Danish Morso.

63676 to 63688.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 16, 1925.

63676. *ABIES KOREANA* Wilson. Pinaceae.

A newly discovered fir from Chosen, which is described by E. H. Wilson (Journal of the Arnold Arboretum, vol. 1, p. 188) as a tree 30 to 50 feet high, with a trunk 4 to 10 feet in circumference, and characterized by its pyramidal habit and deeply fissured rough bark. It is an alpine species, growing abundantly above 3,000 feet in Chosen. It is densely branched, and the lustrous-green leaves with white undersurfaces make the tree very striking.

For previous introduction see S. P. I. No. 63328.

63677. *BUDDLEIA ALTERNIFOLIA* Maxim. Loganiaceae.

According to Mottet (Arbres et Arbustes d'Ornement de Plaine Terre, p. 359), this was introduced from China

63676 to 63688—Continued.

in 1920. It is distinguished by its lilac flowers, which are very small and arranged in many-flowered sessile masses along the flowering branches. It flowers in June and July and has an elegant habit.

For previous introduction see S. P. I. No. 62283.

63678. *CALLICARPA GIRALDIANA* Hesse. Verbenaceae.

The dense clusters of round, berry-like violet fruits produced by this Chinese shrub in late autumn make it of great ornamental value. It has membranous light-green leaves and many-flowered cymes of pink flowers, and has proved hardy in southern Massachusetts, although little known elsewhere in the United States.

63679. *CARPINUS TURCZANINOVII* Hance. Betulaceae.

A hardy, shrubby Chinese hornbeam with oval sharp-pointed leaves 1 to 2 inches long. It is said to resemble *Carpinus polyneura*, also a Chinese species, and may have value as an ornamental plant.

For previous introduction see S. P. I. No. 63346.

63680. *CORYLUS CHINENSIS* Franch. Betulaceae.

The Chinese hazelnut is closely allied to the tree hazelnut (*Corylus colurna*), differing in leaf and stem characters. It becomes a tall tree, sometimes over 100 feet high, with heart-shaped leaves about 7 inches long. The nuts are borne in clusters of four to six. Native to western China.

63681. *HEMIPTLEA DAVIDII* (Hance) Planch. (*Zelkova davidii* Hemsl.). Ulmaceae.

A shrubby, spiny, elmlike tree, native to Chosen and northern China, which has merit as an ornamental tree because of its handsome dark-green foliage; the leaves are oval or oblong, deeply toothed, and about 2 inches long. Because of its spines, the tree may be useful for tall hedges.

63682. *LARIX DAHURICA PRINCIPIS-RUPPRECHTII* (Mayr) Rehd. and Wils. Pinaceae.

A hardy Chinese larch which makes a handsome tree, sometimes as much as 70 feet in height, with attractive bright-green foliage and shiny cones over an inch long.

63683. *LARIX EUROLEPIS* Henry. Pinaceae.

A hybrid between *Larix decidua* (L. *europaea*) and *L. leptolepis*; it is said to be a tree of vigorous growth.

63684. *PAEONIA MLOKOSIEWITSCHI* Lomakin. Ranunculaceae.

This is the most handsome of the yellow-flowered peonies, according to Curtis's Botanical Magazine (pl. 8173). It is a herbaceous perennial with stout stems, blue-green biternate leaves with red nerves and margins, and sulphur-yellow flowers. It appears to be as hardy as the other herbaceous peonies and as easily cultivated. It is native to the western part of the central Caucasus.

63676 to 63688—Continued.

63685. *ROSA FOLIOLOSA* × *RUGOSA* Rosaceae.

One of Vilmorin's hybrids.

63686. *VIBURNUM HENRYI* Hemsl. Caprifoliaceae.

An evergreen shrubby viburnum 10 feet or more in height, with dark shining green oblong leaves and stiff pyramidal panicles of white flowers. The oval fruits, a third of an inch long, are at first red, becoming black, and give the shrub a decidedly ornamental appearance in autumn. Native to central China, and hardy as far north as Massachusetts.

63687. *VIBURNUM HUPEHENSE* Rehder. Caprifoliaceae.

A fairly hardy, deciduous shrubby species, allied to *Viburnum wrightii*, with coarsely toothed, long-pointed, dark-green leaves and ovoid dark-red fruits. Native to central China.

For previous introduction see S. P. I. No. 59401.

63688. *VIBURNUM UTILE* Hemsl. Caprifoliaceae.

A handsome, hardy, evergreen shrub of rather open habit, with dark, glossy green, leathery leaves and pure white flowers produced in dense, terminal, rounded trusses in May. These are succeeded by oval blue-black berries. The shrub is native to western China, where it is said to grow on limestone soils.

63689. *PIROCYDONIA WINKLERI* Daniel. Malaceae.

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co., through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 20, 1925.

One of the pear grafts on the old quinces in the garden of St. Vincent College gave rise to a sucker of distinct character; this was called *Pirocydonia winkleri* by Lucien Daniel, Ille et Vilaine, France. The shoots and leaves are pubescent, unlike those of the pear. The leaves are short stemmed like the quince, but are lanceolate like the pear. A very peculiar thing about this hybrid is that it had its origin below the point of union of the graft and stock.

For previous introduction see S. P. I. No. 62016.

63690. *ANDROPOGON SERRATUS* Thunb. Poaceae. Grass.

From Mandalay, Burma, India. Seeds presented by the economic botanist, through C. V. Piper, Bureau of Plant Industry. Received April 16, 1925.

This grass is common throughout tropical Asia, including the Philippines. It has also been reported from Southern Rhodesia and is said to have some value as a forage grass. (Piper.)

63691 to 63699.

From Kwangtung Province, China. Rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 20, 1925. Notes by Mr. McClure.

63691 to 63699—Continued.

63691. *ALPINIA* sp. Zinziberaceae.

No. 85. *Wong keung*. Obtained at the village of Taichong.

For previous introduction and description see S. P. I. No. 63551.

63692. (Undetermined.)

No. 88. February 20, 1925. *Sha keung*. This plant is commonly cultivated in sandy regions in Kwangtung and is claimed by the Chinese to have drug value. It is used as a condiment (the fresh rhizomes being crushed with a little peanut oil and soy sauce and eaten with meat), as an ingredient in curry powder, and is also prepared for the market by drying.

63693. (Undetermined.)

No. 93. February 3, 1925. *P'o chuk*. This is a medium-sized bamboo whose stems attain a diameter of about 1½ to 2 centimeters and a height of about 3 meters. The shoots or sprouts are naturally slender, but are longer proportionally than the average variety. They are the first to appear on the market in the spring, coming usually before the end of February. This is a very popular variety with the Chinese. The rhizomes are flat as distinguished from those of No. 100 [S. P. I. No. 63699] which are round.

63694. (Undetermined.)

No. 94. February 3, 1925. *Lei chuk*. This is a very small bamboo with stems scarcely more than 1 centimeter in diameter and 1 meter in height and sprouts which are proportionally small. It is not a commercial variety, but is gathered by the Chinese from the wild. The season is slightly later than that of No. 93 [S. P. I. No. 63693], coming in March.

63695. (Undetermined.)

No. 95. Sheungtip. February 3, 1925. *Kan chuk*. This is another dwarf variety of the edible bamboo and is about the size of *Lei chuk* [S. P. I. No. 63694]. It is cultivated, or rather allowed to grow around the villages, and the sprouts come on the market in April.

63696. (Undetermined.)

No. 96. Tangwanfoh, near Takhing. February 4, 1925. *Tai Ngaan chuk*. A large-noded, medium-sized bamboo whose shoots come to the market in April.

63697. (Undetermined.)

No. 97. Tangwanfoh, near Takhing. February 4, 1925. *Fa Hok chuk*. A straight, smooth-stemmed bamboo of medium size, although somewhat larger than *Tai Ngaan chuk* [S. P. I. No. 63696]. The Chinese prefer the sprouts of this variety to those of the *Tai Ngaan* variety.

63698. (Undetermined.)

No. 98. February 16, 1925. *Mau chuk*. Obtained in Kaakmukhaang, near Szchim. This is a very interesting bamboo and is much spoken of though not commonly seen, the culture appearing to be carried on mostly in very out-of-the-way mountain ravines. The plant is unusual among bamboos, being covered with a fine velvety pubescence. The leaves are unusually small in proportion to the large size of the plant. So far as I

63691 to 63699—Continued.

know, it is the only large bamboo here which spreads and propagates itself by means of underground stems. The sprouts are among the largest and are highly esteemed by the Chinese, being eaten fresh, dried, and pickled. The soil in which this bamboo was growing is reddish brown loam underlain with limestone, and no fertilizer is used.

63699. (Undetermined.)

No. 100. Shekkonghaang. February 3, 1925. *P'o chuk*. It differs from No. 93 [S. P. I. No. 63693] by having round rhizomes.

63700 to 63726.

From Chihli Province, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received April 9, 1925. Notes by Mr. Dorsett.

Numbers 63700 to 63715 were obtained at Loutai, February 15, 1925.

63700. *CHAETOCLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae.
Millet.

No. 2173. *Huang nien ku* (yellow sticky millet). A variety which ripens in August. It is ground into flour and used for cakes. The Chinese do not feed it to their stock.

63701. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

No. 2164. *San pai hsi kua* (white watermelon). The true white watermelon, having white skin, flesh, and seeds. It has a diameter of 6 to 10 inches, a length of 18 inches, ripens in August, and is said to be of good quality.

63702 to 63713. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

63702. No. 2156. *Hsiao hua pi tien kua* (small striped-skin sweet melon). A green and white striped, sweet-scented melon which ripens about the end of June. It is normally about 3 inches in diameter and 6 inches in length.

63703. No. 2157. *Ta hua pi tien kua* (large striped-skin sweet melon). This variety is green and white striped, sweet scented, and about 4 or 5 inches in diameter and 8 to 9 inches in length.

63704. No. 2158. *Pai tien kua* (white sweet melon). A sweet-scented melon, about 4 inches in diameter and 8 inches in length, which ripens in July. It is of very good quality.

63705. No. 2159. *Huang hsiang kua* (yellow fragrant melon). A small melon, almost round and about 2 to 3 inches in diameter, which ripens in July. It is used when ripe for scenting rooms, but is not edible.

63706. No. 2160. *Kuai pai pa tien kua* (early white-handled sweet melon). A melon about 3 inches in diameter and 6 inches in length, which ripens in June or July. It is said to be of very good quality.

63707. No. 2163. *Ching pi tien kua* (green-skinned sweet melon). This variety, which is 3 to 4 inches by 6 to 8 inches, ripens in July and is considered to be of very good quality.

63700 to 63726—Continued.

63708. No. 2165. *Hei ke ta tsui* (black-knotted fragile melon). A white-fleshed melon, about 3 inches in diameter and 8 or more inches long, which is considered to be of very good quality.

63709. No. 2167. *Hua pi tsui kua* (striped-skin fragile melon). A green and white striped melon, 4 by 8 inches, which ripens in July. It is said to be of good quality.

63710. No. 2169. *Hua pi tien kua* (flower-skinned sweet melon). A small melon, said to have light-green flesh, about 3 by 6 inches, which ripens in July. It is considered to be of good quality.

63711. No. 2170. *Hua pi tung kua* (flower-skinned eastern melon). This variety, about 8 by 10 inches, ripens in October and is said to be of very good quality.

63712. No. 2171. *Huang tung kua* (yellow eastern melon). A melon 6 by 8 or 10 inches, which ripens in October; it is of very good quality.

63713. No. 2172. *Huang chiu tsui* (golden-yellow fragile melon). A white-fleshed variety, 4 by 10 or more inches, which ripens in August.

63714. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushman.

No. 2168. *Huang bun wo kua* (yellow flat pumpkin). This variety, about 6 to 8 inches in diameter and 12 to 18 inches in length, is said to be harvested through the season. It is cut into small pieces and boiled.

63715 to 63717. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

63715. No. 2161. A variety, resembling kaoliang, which produces canes about 6 feet in height. It is not planted very extensively.

63716. No. 2186. Obtained at the Peking University, February 18, 1925, and originally collected at Liaoyang, Manchuria. *Huang ke nien kaoliang* (yellow-husked sticky kaoliang). It is sown in early spring and harvested in early September. The brush is about 19 inches long. This variety is used for grain and broom stock.

63717. No. 2187. This variety was also obtained at the Peking University, February 18, 1925, and was originally from Liaoyang. *Hung ke nien kaoliang* (red-husked sticky kaoliang). The brush is about 22 inches or more long. Used for grain and broom stock.

63718. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

No. 2175. Loutai. February 15, 1925. *Lu tou* (green mung bean).

63719 to 63721. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Loutai. February 15, 1925.

63719. No. 2155. *Huang tou* (yellow soy bean).

63700 to 63726—Continued.

63720. No. 2176. *Hei tou* (black soy bean).

63721. No. 2180. *Ching tou* (green soy bean).

63722. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceae. Fenugreek.

No. 2102. Peking. February 12, 1925. *Hsiang tsao* (fragrant grass). Obtained at the market and said to have originally come from one of the southern provinces. The Chinese use it in their rooms and sometimes put it in their pillows.

63723. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 2178. Loutai. February 15, 1925. *Chiu mai* (winter wheat).

63724 and 63725. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

63724. No. 2174. Loutai. February 15, 1925. *Hung yeu pai Chiang tou* (brown-eyed white cowpea).

63725. No. 2179. Loutai. February 15, 1925. *Tai li pang tsai tou* (fat-in-the-pod vegetable bean). These may be a pink-striped cowpea.

63726. *ZEA MAYS* L. Poaceae. Corn.

No. 2177. Loutai. February 15, 1925. *Pai yu mi* (white corn).

63727 to 63731.

From French West Africa. Seeds presented by Prof. R. H. Forbes. Received April 9, 1925. Notes by Professor Forbes.

63727 and 63728. *GOSSYPIUM OBTUSIFOLIUM* AFRICANUM Watt. Malvaceae. Cotton.

63727. From the vicinity of Bobodioulasso, in the Haute Volta. This is a perennial tree cotton considerably grown in the rainy regions south of the Niger. The fiber is strong and very short. The yield is low.

63728. From the Sudan, north of the Niger. This is probably the same as the above [S. P. I. No. 63727].

63729. *GOSSYPIUM PUNCTATUM* Schum. and Thonn. Malvaceae. Cotton.

From Segou, French Sudan. This is the species cultivated by the natives throughout the Sudan proper. It yields a strong but short fiber, 20 to 22 millimeters. It is mostly used by the natives, only small quantities being exported to France.

63730. *SYNTHESISMA* sp. Poaceae. Grass.

From Segou, French Sudan. This is the "fonio" of the natives, a "famine crop." Matures quickly during a scant rainfall, while all other crops fail.

63731. *VOANDZEIA SUBTERRANEA* (L.) Thouars. Fabaceae.

From Segou, French Sudan. There are two varieties, red and white, which mature quickly on scant rainfall. A "famine crop."

63732. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Haiti. Cuttings presented through John A. Stevenson, Bureau of Plant Industry. Received April 20, 1925.

A locally developed strain.

63733. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortun, director, Estación Experimental Agro-nómica, through E. W. Brandes, Bureau of Plant Industry. Received April 20, 1925.

H 109.

A locally developed strain.

63734 to 63736.

From Valley River, Manitoba, Canada. Plants presented by W. J. Boughen, Valley River Nurseries. Received April 21, 1925. Notes by Mr. Boughen.

63734. *VIBURNUM AMERICANUM* Mill. Caprifoliaceae.

Highbush cranberry from banks of the Skeena River, about 53° N. Lat.

63735. *PRUNUS PENNSYLVANICA* L. f. Amygdalaceae. Pin cherry.

Selected pin cherry, from 51.5° N. Lat.

63736. *RIBES* sp. Grossulariaceae. Gooseberry.

Thornless gooseberry from Fort La Corne, about 53° N. Lat.

63737 and 63738. *LANDOLPHIA* spp. Apocynaceae.

From Loanda, Angola, Africa. Seeds presented by John Gossweiler, Servicos de Agricultura. Received April 24, 1925.

Rubber-yielding shrubs.

63737. *LANDOLPHIA KLAIRII* Pierre.

A tropical African climbing shrub which is said (Flora of Tropical Africa, vol. 4, sec. 1) to be the principal rubber-producing plant in the Gabon district, French Equatorial Africa. The oblong leathery leaves are glossy green, and the hard globose fruits are 6 to 10 inches in diameter.

63738. *LANDOLPHIA PARVIFOLIA* Schum.

This is described by Otto Stapf (Thielsen-Dyer, Flora of Tropical Africa) as a much-branched, climbing shrub with small oblong leaves and pale-yellow or white flowers in small dense clusters. The greenish purple fruits, about 2 inches in diameter, have a smooth thick rind.

For previous introduction see S. P. I. No. 61015.

63739 and 63740. *HELIANTHUS TUBEROSUS* L. Asteraceae.

Jerusalem artichoke.

From Erfurt, Germany. Tubers purchased from Haage & Schmidt. Received April 22, 1925.

Locally grown tubers.

63739. *Erdbirne*.

63740. Received as *Helianthus doronicoides*, now referred to *H. tuberosus*.

63741 to 63750.

From Ottawa, Canada. Presented by W. T. Macoun, Dominion horticulturist, Central Experimental Farm. Received April 23, 1925.

63741 to 63750—Continued.

63741 to 63749. *MALUS SYLVESTRIS* Mill.
Malaceae. Apple.

A collection of seedlings of the McIntosh apple.

63741. *Joyce*. 63746. *Newtosh*.

63742. *Labo*. 63747. *Patricia*.

63743. *Lawfam*. 63748. *Pedro*.

63744. *Melba*. 63749. *Stonetosh*.

63745. *Miltosh*.

63750. *PRUNUS TOMENTOSA* Thunb.
Amygdalaceae. Manchu cherry.

Scions of a locally developed strain.

63751. *COFFEA EXCELSA* Cheval. Rubiaceae. Coffee.

From Lamac, Bataan, Philippine Islands. Seeds presented by S. Youngberg, acting Director of Agriculture, Bureau of Agriculture, Manila, at the request of P. J. Wester. Received April 9, 1925.

According to the Philippine Review (vol. 9, p. 121), this coffee thrives from sea level to 700 meters, succeeds well on rather stiff clayey soils, and is quite drought resistant. It might be grown with an annual rainfall of 48 inches. It is the most resistant to blight and drought of any coffee, is of strong vigorous growth, and produces 1 kilogram of dry coffee from 7 to 8 kilograms of fresh berries. *Coffea excelsa* makes an excellent stock for other coffees. The first crop is obtained at the age of 4 to 5 years and a full crop at the age of 7 to 8 years.

For previous introduction see S. P. I. No. 63602.

63752. *LACTUCA SATIVA* L. Cichoriaceae. Lettuce.

From Nanking, China. Seeds presented by M. Leslie Hancock, University of Nanking. Received April 14, 1925.

Grown by the Chinese for its stem, which is very fleshy. (Hancock.)

63753. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Scheemda, Netherlands. Seeds presented by the Hommo Ten Have's Seed Co. Received April 17, 1925.

Remontant. A European variety of red clover.

For previous introduction see S. P. I. No. 62309.

63754. *HELIANTHUS TUBEROSUS* L. Asteraceae. Jerusalem artichoke.

From Toronto, Canada. Tubers purchased from William Rennie Co. Received May 6, 1925.

Locally grown tubers.

63755 to 63757.

From Kwangtung Province, China. Collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 24, 1925. Notes by Mr. McClure.

63755 to 63757—Continued.

63755. *ALPINIA* sp. Zinziberaceae.

No. 104. March 6, 1925. *Yik tsz, Ye keung fa*. Rhizomes obtained at the Canton Christian College. This is a beautiful ornamental forming a dense growth of tough herbaceous stems which are set with fine dark-green foliage terminating in the summer in large racemes of fragrant white blossoms with red and golden lips. In addition to its value as an ornamental, the seeds, according to the Chinese, have a drug value. In fact, they are said to bring a wholesale prices of \$50 to \$100 per 100 catties [133½ pounds].

63756. *POTHOS SEEMANNI* Schott. Araceae.

No. 106. Cuttings from a vine growing on a tree trunk on the Tengoo Mountain. A herbaceous climbing plant which adheres closely to the bark of trees by means of woolly adventitious roots. After attaining sufficient length to reach the lower branches of the tallest trees, it hangs in beautiful long festoons. It is a fine ornamental, chiefly on account of its splendid foliage; the flowers, in keeping with those of its kind, are rather inconspicuous.

63757. (Undetermined.) Poaceae.

Bamboo.

No. 102. March 5, 1925. *Lak cha chuk*. Rhizomes of an edible bamboo, which is of considerable merit, collected on Honam Island, east of Tait'ong. It is of medium size, and when grown on fertile soil the culms reach a diameter of about 2.5 to 3 centimeters and a height of 3 to 4 meters. The nodes or joints are rather prominent, being larger in proportion to the stem than is usually the case. The sprouts, which are ready to harvest about the first of April, are very popular, bringing 50 to 60 cents a catty [1½ pounds]. As grown here this bamboo is not fertilized and is allowed to shift for itself.

63758 to 63783.

From Amani, Tanganyika Territory, Africa. Seeds presented by A. H. Kirby, Director of Agriculture. Received April 9, 1925.

63758. *ADENANTHERA MICROSPERMA* Teijsm. and Binn. Mimosaceae.

No. 12. A handsome tropical tree, closely related to the mimosas, with attractive clean-cut foliage and twisted pods bearing bright-red beans. It is native to the East Indies and is considered a valuable timber tree because of its strong dark-brown wood, which is very hard, in spite of the rapid growth of the tree.

For previous introduction see S. P. I. No. 61478.

63759. *ALBIZZIA ADIANTHIFOLIA* (Schum.) W. F. Wight (*A. fastigiata* E. Mey.). Mimosaceae.

No. 16. A tropical African tree, of fastigiate habit, with finely divided foliage. According to Holland (Useful Plants of Nigeria, pt. 2), this tree yields a gum somewhat similar to gum arabic. The seeds, after maceration, are eaten as a sauce by the natives of West Africa.

For previous introduction see S. P. I. No. 62897.

64651 and 64652—Continued.

64651. Plants.

64652. Cuttings.

The bougainvilleas are showy climbing shrubs, native to South America, which are adapted for growing under glass in the North and out of doors in the Gulf States and California.

64653 and 64654. *GLADIOLUS* spp. Iridaceae.

From Kirstenbosch, Cape Province, Union of South Africa. Seeds presented by R. H. Compton, director, National Botanic Gardens, through H. L. Shantz, Bureau of Plant Industry. Received August 20, 1925. Notes by Professor Compton.

64653. *GLADIOLUS CALLISTUS* Bolus f.

No. 498. A relatively new species which I have not had an opportunity to look up, but which belongs to the *Gladiolus blaudus* group. It is an extremely beautiful, tall, upright-growing species of a fine form and color.

64654. *GLADIOLUS RECURVUS* L.

No. 499. One of the most promising of our gladioli from the hybridizer's point of view. The flowers are blue and quite fragrant. This variety is highly regarded as an ornamental, and, because of its color and perfume, should also prove valuable for hybridization.

64655. *CRYPTOSTEGIA MADAGASCARIENSIS* Bojer. Asclepiadaceae.

From Tananarive, Madagascar. Seeds presented by the Chief, Agricultural Service. Received July 1, 1925.

A climbing shrubby vine, native to Madagascar, which is grown as an ornamental in South Africa and elsewhere. The leaves are short and leathery, and the whitish or pink flowers are 2 to 3 inches wide. Of possible value as a source of rubber.

For previous introduction, see S. P. I. No. 60442.

64656 to 64660. *DIOSCOREA* spp. Dioscoreaceae.

From Rabaul, New Guinea. Tubers presented by G. Bryce, director of agriculture. Received July 6, 1925.

A collection of native yam varieties.

64656. *Allah*.64659. *Marut*.64657. *Lama*.64660. *Taniel*.64658. *Maine*.64661 and 64662. *SOLANUM* spp. Solanaceae.

From Lima, Peru. Tubers presented by Julio Gaudron, Escuela Agricultura. Received July 8, 1925. Notes by Wilson Popenoe, Bureau of Plant Industry.

64661. *SOLANUM* sp.

Though this plant is grown at the Botanic Garden in Lima under the name of *Solanum maglia*, W. E. Safford believes it is not this species. Its tubers, which are more or less round in form and 1 or 2 inches in diameter, are of no value as food. The plant, however, is of interest to breeders for hybridizing with the true potato.

For previous introduction, see S. P. I. No. 62697.

64661 and 64662—Continued.

64662. *SOLANUM TUBEROSUM* L. Potato.

The yellow-fleshed potato is one of the most interesting varieties found in the Andean region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as those of some other varieties; but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor suggesting that of the chestnut. It seems to me the variety might be improved, so as to do away with the objectionable eyes, and that it would then be worth extensive cultivation.

For previous introduction, see S. P. I. No. 56803.

64663. *ACACIA SCORPIOIDES* (L.) W. F. Wight (*A. arabica* Willd.). Mimosaceae.

From Alexandria, Egypt. Plants presented by W. A. Lancaster, at the request of S. H. Shearer, Indianapolis, Ind. Received July 10, 1925.

According to J. H. Holland (Useful Plants of Nigeria, pt. 2, p. 288), a large proportion of the gum arabic of commerce is furnished by this tree, which is native to northern Africa and southwestern Asia. True gum arabic, however, is said to come only from another species, *Acacia senegal*. The pods and bark of *A. scorpioides* are used for tanning, and the leaves and young pods are sometimes fed to cattle. The wood is hard and durable and is used in India for making tools.

For previous introduction, see S. P. I. No. 58379.

64664. *COIX LACRYMA-JOBI* MA-YUEN (Rom.) Stapf. Poaceae. Adlay.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director of Agriculture, Peradeniya, at the request of P. J. Wester. Received July 11, 1925.

Batangas. The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to Mr. Wester it is better than upland rice for tropical agricultural regions in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64665. *PRUNUS TOMENTOSA* Thunb. Amygdalaceae. Bush cherry.

From Rochester, N. Y. Bud sticks collected by C. C. Thomas, Bureau of Plant Industry. Received July 25, 1925.

Durant Park. The largest fruited and most prolific of any of the varieties in fruit in the park. (Thomas.)

64666. *EUCALYPTUS DELEGATENSIS* R. T. Baker. Myrtaceae.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received September 9, 1925.

A variety, commonly called "Gum-topped stringy bark," obtained at an altitude of about 3,000 feet by J. B. Milsom, near the Great Lake. (Evans.)

This tree, originally described by Hooker under the name *Eucalyptus gigantea*, is re-

ported to attain large dimensions. It is described as erect, the branches usually short and ascending, the bark thin and fibrous, and the foliage very similar to that of *E. obliqua*. For trial in the extreme southern United States and in California.

For previous introduction, see S. P. I. No. 58628.

64667. NEYRAUDIA MADAGASCARIENSIS
(Kunth) Hook. f. Poaceae. Grass.

From Tananarive, Madagascar. Seeds presented by the chief, Agricultural Service. Received July 15, 1925.

A tall, coarse, perennial grass, closely allied to the giant reed (*Arundo donax*). Although native to Madagascar, it is found in many parts of tropical Asia and Africa. The flat narrow leaves, 1 or 2 feet long, are on leafy, solid stems, 6 to 10 feet high. The shining silky erect panicles are 1 to 3 feet in length. In Madagascar the leaves are said to be used for making hats.

For previous introduction, see S. P. I. No. 39690.

64668. SALVIA COCCINEA PSEUDOCOCCINEA
(Jacq.) A. Gray. Menthaceae.

From Yucatan, Mexico. Seeds collected by Ernest L. Crandall, Bureau of Plant Industry. Received July 20, 1925.

A perennial sage with flowers the same shade of intense red as that of the cardinal flower (*Lobelia cardinalis*). The plants, which have two to five stems, vary in height from 15 to 30 inches and grow in little pockets of soil on limestone rocks in very dry sunny places. Each morning the fully opened flowers drop off before 11 o'clock. (Crandall.)

64669. PRUNUS INCISA Thunb. Amygdalaceae.

From Jamaica Plain, Mass. Seeds presented by C. S. Sargent, director, Arnold Arboretum. Received July 20, 1925.

An ornamental Japanese cherry which is described (Arnold Arboretum, Bulletin of Popular Information, vol. 8, no. 3) as a large shrub, or sometimes a small tree, about 25 feet high. The flowers, which appear in drooping clusters before the deeply cut leaves, are white or rosy, with bright-red calyxes, and the anthers are bright yellow. The petals fall early, but the calyxes, which gradually grow brighter, remain on the young fruits for some time and are quite showy.

64670 to 64672. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortún, director, Estación Experimental Agronómica. Received July 20, 1925.

Locally grown strains.

64670. Co. 205. 64672. Co. 281.

64671. D. 247.

64673. MUSA URANOSCOPOS Lour. (*M. coccinea* Andr.). Musaceae. Banana.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received July 28, 1925.

No. 151. May 19, 1925. Wat chiu and shui tsai. Obtained from a tree in an old

deserted yamen (Hok T'oi Nga Moon) on Kauifong. The plants, 4 to 5 meters high, have leaves which are longer and narrower than those of the usual cultivated bananas here. The bracts of the flowers curl, one at a time, back from the bud, exposing the brilliant-red inner surface, thus permitting the fertilization of the flowers. Unlike those of the cultivated edible banana, these bracts persist after the fruits reach maturity. The fruits are short and thick, being only 9 centimeters long, including the rather slender base by which they are attached to the stalk, and 11.5 centimeters in circumference. The skin turns a rich yellow when the fruits are ripe. The interior of the fruits is so packed with seeds that there is practically no flesh. (McClure.)

64674 to 64719. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceae. Soy bean.

From Kagoshima, Japan. Seeds presented by K. Tamari, Kagoshima Imperial College of Agriculture and Forestry. Received July 23, 1925. Notes by Mr. Tamari.

64674 to 64683. Grown at the Prefecture Akita, in 1924, and obtained through C. Kanamoto, Yokozawamura, Akita.

64674. No. A-1. *Hanshiro Mame*. A half-white variety.

64675. No. A-2. *Mejiro*. White-eyed soy bean.

64676. No. A-3. *Goyo Mame*. A five-leaved variety.

64677. No. A-4. *Wase Akazaya*. An early variety having a reddish pod.

64678. No. A-5. *Ko Abakoku*. A small abakoku soy bean.

64679. No. A-6. *Kuro Mame*. Black variety.

64680. No. A-7. *Kuro Zaya*. Black-podded soy bean.

64681. No. A-8. *Akita*.

64682. No. A-9. *Ani*.

64683. No. A-10. *Tamazdukuri*. This variety was grown at Tamazdukuri.

64684 to 64701. Grown in Chosen during 1924 and collected by the courtesy of the director of the agricultural experiment station of Chosen, Suigen.

64684. C-1. *Suigen* No. 5.

64685. C-2. *Suigen* No. 8.

64686. C-3. *Suigen* No. 9.

64687. C-4. *Suigen* No. 10.

64688. C-5. *Oiarukon*.

64689. C-6. *Chūhoku Shiro*. A white soy bean grown at the Prefecture Chūhoku.

64690. C-7. *Tansen Tanryoku*. Light green variety grown in Tansen.

64691. C-8. *Chōzdui*.

64692. C-9. *Niku Awo Cha Daizdu*. A green variety with a brown skin.

64693. C-10. *Urusan*.

64694. C-11. *Himashi Daizdu*. Castor soy bean.

64695. C-12. *Kōshiu Chūryū*. From Kōshiu.

63787 to 63797—Continued.

63791. *BRIDELIA MONOICA* (Lour.) Merr.
Euphorbiaceae.

No. 80. Sheungtip. February 3, 1925. *Pik pok tsai*. An attractive small, native tree whose slender drooping branches are slightly suggestive of the weeping willow, although the sessile leaves are elliptic ovate and obtuse. This plant, widely distributed throughout Kwangtung, is a fair ornamental, although neither its flowers nor its fruits are conspicuous.

63792. *FRAXINUS CHINENSIS* Roxb. Oleaceae. Ash.

No. 84. February 10, 1925. *Shui lau, Ch'auk paan lau*. From two trees growing near a pond on the road to the Tengu Mountain, near Haulik. The lumber, not abundant here, is used by the Chinese to make implements, oars, etc.

63793. *ILEX* sp. Aquifoliaceae.

No. 79. *Chue t'in shue, Tsau peng shue, Pak lan heung*. From an isolated tree growing wild along the road near Samshui, on the flood plain of the West River. This is a beautiful spreading tree with smooth light-gray bark and glossy dark-green persistent foliage. The thick clusters of red berries are slightly flattened in shape and considerably smaller than a garden pea.

63794. *ILEX* sp. Aquifoliaceae.

No. 81. February 16, 1925. *Pak lan heung*. Along the road from Lintan to Szchim. This tree, leafless, but with every branch literally hidden in a profusion of brilliant red berries, was a most strikingly beautiful object. It stood out very conspicuously in quite a group of its species as being leafless but heavily loaded with fruits while the others still clung to half their foliage but bearing much less abundantly.

63795. *ORMOSIA CALAVENSIS* Azaola. Fabaceae.

No. 91. February 9, 1925. *Kai Ngaan shui*. A striking ornamental from a ravine on Tengu Mountain. This is a large tree with black bark, splendid foliage, and bearing bright-red seeds.

63796. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

No. 78. February 16, 1925. A light-green variety from a shop in Lintan and said to have originally come from Tung-koon, on the East River.

63797. *VITEX QUINATA* (Lour.) F. N. Williams. Verbenaceae.

No. 99. Kochanghui, on the Little North River. January 18, 1925. *Po keng, Fooi shue*. This large tree, 10 meters high and 50 centimeters in diameter, bears small fragrant purple or lavender flowers in large upright panicles. It yields a hard wood useful in making furniture and boats.

63798. *MANIHOT GLAZIOVII* Muell. Arg.
Euphorbiaceae. Ceara rubber.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received April 23, 1925.

An important rubber-producing plant, native to Brazil.

63799. *NEYRAUDIA MADAGASCARIENSIS* (Kunth) Hook. f. Poaceae. Grass.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received April 20, 1925.

A large coarse grass, described by J. D. Hooker. (Flora of British India, vol. 7) as having a solid stem 6 to 8 feet or more in height, with smooth soft leaves 1 or 2 feet long and panicles 1 to 3 feet long. Although native to Madagascar, this grass is distributed throughout tropical Asia. In its native home the leaves are used for making hats.

63800 to 63820.

From Leningrad, Russia. Seeds presented by Dr. Wl. Kousnetzoff, botanist in charge of forage and pasture plants, Bureau of Applied Botany and Plant Breeding. Received April 13, 1925. Notes by Doctor Kousnetzoff.

63800 and 63801. *AGROPYRON CRISTATUM* (L.) Gaertn. Poaceae. Grass.

A perennial, thickly caespitose grass, upright or ascending, native to southern Europe and Asia.

63800. No. 1338. Province of Omsk.

63801. No. 2113. Minusinsk. Province of Yeniseisk, District of Siberia.

63802. *AGROPYRON SIBIRICUM* (Willd.) Beauv. Poaceae. Grass.

No. 1340. Province of Omsk.

An upright caespitose perennial grass, up to 16 inches high, with linear leaves. Native to southern Russia and the Caucasus.

63803 to 63805. *BROMUS INERMIS* Leyss. Poaceae. Grass.

A perennial upright European grass, which forms a thick mat, with creeping rhizomes. The stems are 1 to 3 feet high.

63803. No. 1612. Djirgalantou. Mongolia. From the basin of a river.

63804. No. 1613. Adjia, Mongolia. From the basin of the Kossogol River.

63805. No. 1342. Province of Omsk.

63806. *ELYMUS DAHURICUS* Turcz. Poaceae. Grass.

No. 1346. Province of Omsk.

A tall perennial grass with stout erect stems, native to mountainous regions in central and eastern Asia.

63807 and 63808. *ELYMUS SIBIRICUS* L. Poaceae. Grass.

A tall perennial grass with heavy pendulous panicles; native to Siberia.

63807. No. 1347. Province of Omsk.

63808. No. 2273. Nikol'sko-Ussurijsk, Province of Primorskaya.

63809 and 63810. *HEDYSARUM GMELINI* Ledeb. Fabaceae.

In localities where this is native it is popular as a forage plant.

63809. No. 2285. District of Minusinsk, Province of Yeniseisk.

63810. No. 2286. District of Minusinsk, Province of Yeniseisk.

63800 to 63820—Continued.

63811. *LESPEDEZA STRIATA* (Thunb.)
Hook. and Arn. Fabaceae.

No. 2270. Nikoljsko-Ussurijsk, Province of Primorskaya.

63812 and 63813. *MEDICAGO FALCATA* L.
Fabaceae.

63812. No. 1327. Province of Omsk.

63813. No. 2111. District of Minusinsk, Province of Yeniseisk.

63814. *MEDICAGO PLATYCARPA* (L.) Trautv.
Fabaceae.

No. 1311. Province of Irkutsk, eastern Siberia.

A Siberian alfalfa of erect habit, with yellow flowers and large, flat, black pods.

63815 and 63816. *MEDICAGO SATIVA* L. Fabaceae.
Alfalfa.

63815. No. 1783. District of Slavgorodsk, Province of Omsk.

63816. No. 1784. District of Tatarsk, Province of Omsk.

63817. *ONOBRYCHIS VULGARIS* Hill (*O. viciaefolia* Scop.). Fabaceae.

No. 2110. District of Minusinsk, Province of Yeniseisk.

63818. *PHLEUM PHLEOIDES* (L.) Karst. (*P. boehmeri* Wibel.). Poaceae. Grass.

No. 2115. District of Minusinsk, Province of Yeniseisk.

A perennial, thickly matted grass, native to Europe and western Asia, with stems 1 to 2 feet high and gray-green leaves up to 8 inches long.

63819. *TRIFOLIUM REPENS* L. Fabaceae.
White clover.

No. 1842. Harbin, Manchuria.

63820. *VICIA AMOENA* Fisch. Fabaceae.
Vetch.

No. 2109. District of Minusinsk, Province of Yeniseisk.

A perennial, hairy Siberian vetch, with erect stems up to 2 feet high and purplish flowers.

63821. *MUSA URANOSCOPOS* Lour. Musaceae.
Banana.

From China. Offshoots collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 27, 1925.

No. 107. March 10, 1925. *Shaan pa tsiu*, *Shui tsiu*. From plants growing on a trash pile near the Hengwan monastery on the Tengoo Mountain, Kwangtung. The plants are 1½ to 2 meters high, with leaves one-half to 1 meter long, bright-red flowers blooming in the summer, and fruits said to be very seedy and not edible. The plants do not appear to be cultivated by the Chinese around Canton, nor used by them for any purpose. (McClure.)

63822. *BERBERIS REPLICATA* W. W. Smith. Berberidaceae. Barberry.

From Wisley, Ripley, Surrey, England. Seeds presented by Fred J. Chittenden, director, Royal Horticultural Society Gardens. Received April 24, 1925.

An evergreen barberry originally collected by George Forrest in thickets on the Shweli-

Salwin Divide, southwestern China, at an altitude of 11,000 feet. The rather small leaves have recurved margins and are gray beneath. It is an early and profusely flowering species, bearing its blossoms all along the branches in a very attractive fashion, and the deep-crimson berries make it handsome in the fruiting stage. It appears to be very hardy in England.

For previous introduction see S. P. I. No. 58463.

63823 to 63826.

From Kwangtung Province, China. Collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 24, 1925. Notes by Mr. McClure.

63823. *EURYALE FEROX* Salisb. Nymphaeaceae.

No. 103. Shiuhing, on the West River. *Chi sat*. Seeds of a hydrophytic plant said to resemble the lotus somewhat. It is covered with short spines, however, and has very large, floating leaves. The seeds must be kept moist from maturity (September) until planting time (April), or they will not grow. They are stored wet in large earthen jars. If used for food, however, they are immediately dried, the shell removed, and the starchy kernels placed on the market. The most notable use to which the seeds of this plant are put is the feeding of a famous variety of cultivated fish known as man hing long lei ue. These fish are said to be characterized by very soft bones, fins, and scales, the latter being eaten with the flesh. The Chinese attribute these peculiar qualities of this fish to the fact that they are fed on the seeds of chi sat. These seeds are also used for human consumption and are considered to be a particularly beneficial food.

63824. *STIZOLOBIUM PACHYLOBIUM* Piper and Tracy. Fabaceae.

No. 101. March 2, 1925. *Tai kau tsau tsu*. Seeds obtained at the Canton Christian College. This plant is a luxuriant vine and is used in parts of China as green manure. It makes a prodigious growth.

63825. *POTHOS* sp. Araceae.

No. 120. March 14, 1925. *Shek p'o t'ang*. Cuttings obtained from the wilds near the village of Heunglokauk. This is a pretty creeping plant which covers the granite rocks in moist, shady situations.

63826. (Undetermined.) Poaceae.
Bamboo.

No. 105. March 6, 1925. *Wack chuk*. Cuttings obtained at the Canton Christian College. This is a very striking ornamental bamboo with golden-yellow culms, marked vertically with random narrow stripes of bright green. It reaches a diameter of 9 or 10 centimeters and a height of 10 meters when well established. This bamboo is not common, but is seen here and there as an ornamental in the Chinese gardens and monasteries.

63827 and 63828. *LILIUM* spp. Liliaceae.
Lily.

From Harbin, Manchuria. Seeds presented by P. Pavlov, president of the natural history section, Manchuria Research Society. Received April 28, 1925.

63827 and 63828—Continued.

63827. *LILIUM DAURICUM* Ker.

A plant about 3 feet in height, with a smooth or slightly furrowed stem which is green or tinged with brown or purple. The 20 to 50 horizontal leaves are 3 to 5 inches long, and the flowers, one to five in a cluster and 3 to 5 inches across, are orange-red, slightly spotted with purplish black, and tinged with yellow in the center. The anthers are red.

For previous introduction see S. P. I. No. 58553.

63828. *LILIUM MARTAGON* L.

The Martagon lily grows wild from central and southern Europe to southwestern Siberia. The stem is 3 to 6 feet high, often purple spotted, with horizontal deep-green leaves 3 to 6 inches long and dull claret-purple flowers, spotted purplish black, with red anthers. From 3 to 20 flowers are produced at one time, usually in late June and July.

63829. *COIX LACRYMA-JOBI* MA-YUEN (Rom.) Stapf. Poaceae. Adlay.

From Lamac, Bataan, Philippine Islands. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture, Manila. Received June 11, 1925.

La Union.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

63830 to 63836.

From Tibet, China. Seeds collected by Capt. F. Kingdon Ward and presented by Maj. Lionel de Rothschild, London, England. Received April 23, 1925. Notes by Captain Ward.

Collected in the Tsangpo Valley during April and May, 1924.

63830. *IRIS* sp. Iridaceae.

No. 5719. A purple-flowered plant, 9 inches in height, which grows in sandy soil in open alpine pastures at an altitude of 13,000 feet.

63831. *LILIUM* sp. Liliaceae.

No. 6428. A plant, 2 to 3 feet high, which grows on very steep, well-drained, grass-clad slopes in fine sandy soil, under pine trees, etc. It bears a single terminal flower.

63832. *LONICERA* sp. Caprifoliaceae.

No. 5688. A shrub, 6 feet high, which grows in thick spruce forests and which requires ample water and deep shade. The foliage and fruit are ornamental. The flowers were not seen.

63833. *LONICERA* sp. Caprifoliaceae.

No. 5753. A dwarf twiggy shrub, 1 to 1½ feet in height, growing in peaty soil on open slopes among dwarf rhododendrons. The flowers are small and yellow, and the berries large, scarlet, and translucent.

63830 to 63836—Continued.

63834. *LONICERA* sp. Caprifoliaceae.

No. 5776. A shrub, 6 to 8 feet high, requiring shade and ample water, found along streams in the forests. The leaves are dark green, the flowers yellow with large papery bracts, and the fruits are scarlet. It is very floriferous and particularly striking when in fruit.

63835. *LONICERA* sp. Caprifoliaceae.

No. 5872. A shrub, 2 to 3 feet high, bearing flowers of a purple-plum color and large blue-black berries. It grows on steep, sheltered, rocky slopes, in peaty soil with rhododendrons, etc.

63836. *LONICERA* sp. Caprifoliaceae.

No. 6106. A pale-yellow flowered bush or tree, 15 to 20 feet high, with orange-scarlet berries. The foliage is pale sea-green, almost glaucous. This species is found in fairly dry regions, in sandy soil, and in open meadows or thickets.

63837 to 63839.

From Kwangtung Province, China. Purchased by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 7, 1925. Notes by Mr. McClure.

63837. *COLOCASIA* sp. Araceae.

No. 113. Village of Heunglokeuk. March 14, 1925. *Fa tau oo*. This variety, of moderate size and oblong in shape, is considered by the Chinese to be of excellent quality and flavor. Tubers.

63838. *DIOSCOREA ALATA* L. Dioscoreaceae. Yam.

No. 116. Village of Heunglokeuk. March 13, 1925. *Taai hung shue*. A red-fleshed yam of good quality and flavor. Tubers.

63839. *ZINZIBER* sp. Zinziberaceae.

No. 114. Village of Heunglokeuk. March 13, 1925. *Shaan keung*. Cultivated and used in the village of Heunglokeuk as a condiment, as is the ginger commonly grown around Canton. Rhizomes.

63840. *RUBUS* sp. Rosaceae.

From Stavanger, Norway. Plants presented by Thoralf Bryne. Received May 7, 1925.

Paradise berry. A large red raspberry, almost as large as the largest variety known in cultivation, which is the English variety, the Royal. (Bryne.)

For previous introduction see S. P. I. No. 56145.

63841 to 63845. *GOSSYPIUM* spp. Malvaceae. Cotton.

From Nanking, China. Seeds presented by the University of Nanking, through T. H. Kearney, Bureau of Plant Industry. Received May 2, 1925.

63841 to 63843. *GOSSYPIUM* NANKING Meyen.

The "Chinese" cotton of commerce is, according to Watt (Wild and Cultivated Cottons of the World) an annual or perennial bush, with delicate, sparsely branched stems and imperfectly cordate leaves. The irregular-shaped seeds are densely coated with rufous velvet and

63841 to 63845—Continued.

bear a silky fiber, which in all the better varieties is white but often shows a tendency to become reddish or khaki. This cotton is cultivated throughout tropical Asia.

For previous introduction see S. P. I. No. 62595.

63841. Greenish yellow flowers.

63842. *Hsiao kan kwan*.

63843. Flowers small and white.

63844. *Gossypium* sp.

Million Dollar.

63845. *Gossypium* sp.

F 5.

63846 to 63849. *ORNITHOGALUM* spp.
Liliaceae.

From Bonnie Vale, Cape Province, South Africa. Seeds purchased from the Winton Nurseries. Received April 30, 1925.

In South Africa these liliaceous plants are known as "chinkerichees." They have become popular in that country as ornamentals. When dried the flowers retain their form and color admirably and for this reason can be used as "everlastings."

63846. *ORNITHOGALUM* sp.

Cream colored.

63847. *ORNITHOGALUM* sp.

Double white.

63848. *ORNITHOGALUM* sp.

Orange colored.

63849. *ORNITHOGALUM* sp.

White.

63850 to 63852. *AMYGDALUS PERSICA* L.
(*Prunus persica* Stokes). Amygdalaceae. Peach.

In 1913 seeds of the *Shalil* peach were introduced from the Kurram Valley, Northwest Provinces, India. The following seedlings, grown at the Plant Introduction Garden, Chico, Calif., appear worthy of propagation and are therefore assigned numbers, April, 1925, for convenience in distribution.

63850. Fruit round to oval, small, 2 inches in diameter; cavity of medium depth, rather broad; suture shallow; skin light yellow, thin, tender, heavily pubescent, separating easily from the flesh; flesh golden yellow, medium juicy, little fiber, slightly lacking in sugar, fair quality, not stained around the pit; pit $1\frac{1}{4}$ inches by 1 inch, brown, sharply pointed. A freestone. The tree is large and vigorous and has proved very satisfactory at Chico as stock. The fruits are good for drying and also for canning. Ripens at Chico, Calif., about the third week in August. (Row 18, tree 1, old test nursery.)

63851. Fruit nearly round or oval, $2\frac{1}{4}$ by 2 inches; cavity of medium depth, fairly abrupt, slightly elongated along suture; suture distinct, very shallow; apex with very small point; skin golden yellow, rather thick but tender, heavily pubescent, separating easily

63850 to 63852—Continued.

from the flesh; flesh golden yellow, tending soft, juicy, little fiber, slightly lacking in sugar, only slightly stained around pit; pit $1\frac{1}{2}$ inches by 1 inch, pinkish, very sharply pointed. A freestone. The tree is fast growing, vigorous, and prolific, and the fruits are excellent for table use and could also be used for canning and drying. Ripens at Chico, Calif., about the third week in August. (Row 18, tree 2, old test nursery.)

63852. Fruits medium sized, $2\frac{1}{2}$ by $2\frac{1}{4}$ inches, oval or nearly so, slightly oblique at base; cavity broad, fairly deep; suture medium apex with small point; skin golden yellow, thick, tough, adhering to flesh, pubescence very heavy; flesh golden yellow, tending juicy, firm, tough, rather flat, lacking in sugar, not stained near pit; pit 1 by $1\frac{1}{4}$ inches extended into a sharp point. This attractive clingstone peach, which appears to have promise for canning, ripens at Chico, Calif., about the third week in August. (Row 18, tree 4, old test nursery.)

63853 and 63854. *GARCINIA* spp. Clusiaceae.

From Manila, Philippine Islands. Seeds presented by the acting Director of Agriculture, Bureau of Agriculture. Received May 6, 1925.

63853. *GARCINIA BINUCAO* (Blanco) Choisy.
Binukao.

The binukao, a relative of the mango-steen, is a handsome tree which is very common in certain parts of the Philippine Islands, notably in Luzon and the Visayan Islands. W. H. Brown, in *Wild Food Plants of the Philippines*, states that the yellowish rounded fruits, nearly 2 inches in diameter, with a very acid pulp and numerous seeds, are eaten with fish by the Filipinos. The small red flowers are borne in dense clusters. The binukao will probably not endure low temperatures, since it comes from a tropical region.

For previous introduction see S. P. I. No. 59376.

63854. *GARCINIA VENULOSA* (Blanco) Choisy.

Like the preceding [S. P. I. No. 63853], the *katuri* is also a wild Philippine relative of the mangosteen. It is described by P. J. Wester (*Food Plants of the Philippines*, p. 105) as a tree about 40 feet high, with large oblong leathery leaves, which is widely distributed throughout the Philippines, but not cultivated. The round fruits, about 2 inches in diameter, have an acid pulp containing several flat seeds. The natives eat this fruit with fish, and it would probably make good preserves.

63855. *CAREX PUMILA* Thunb. Cyperaceae. Sedge.

From New Zealand. Seeds presented by W. C. Coker, University of North Carolina, through A. S. Hitchcock, Bureau of Plant Industry. Received May 9, 1925.

Sent by Captain Ellis, State forester of New Zealand, who says this is the best sand binder of that country. (Coker.)

63856 to 63866. OLEA EUROPAEA L.
Oleaceae. Olive.

From Pescia, Province of Lucca, Italy. Plants purchased from E. d'Uliva & Fratelli. Received May 11, 1925. Notes taken from the catalogue of d'Uliva & Fratelli.

A collection of Italian varieties, not known in the American trade, introduced for trial in the olive-growing sections of the United States.

63856. Ascolana. A canning variety cultivated from time immemorial in Ascoli. It is a constant and abundant fruiter, with large, dark-green, lightly undulate leaves. The large fruits are almost spherical, with rich, delicate flesh of pleasant flavor; the seed is small.

63857. Asiolani.

63858. Dolce del Marocco. A variety with fruits larger than those grown for oil, especially adapted for drying.

63859. Enijuolo.

63860. Frantoi. Cultivated for oil.

63861. Grappolo. Rather large olives, produced in clusters. The fruits are rich in oil.

63862. Lecchi. A vigorous variety cultivated for oil.

63863. Maurini. An excellent new variety, producing oil of good quality.

63864. Racemo. A prolific variety, disease resistant, with ashy green leaves; the ovoid fruits are rich in oil.

63865. Moraioli. A vigorous drought-resistant and disease-resistant variety which yields an abundance of oil of good quality.

63866. Zantis.

63867. BRASSICA sp. Brassicaceae.

From Kwangtung Province, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 7, 1925.

No. 118. March 9, 1925. *Yau tsoi*. Seeds collected from plants which had escaped from cultivation, growing along the bank of the West River near Lohyanchung. (McClure.)

63868. NEOGLAZIOVIA VARIEGATA (Aruda) Mez (*Billbergia variegata* Schult.). Bromeliaceae.

From Bahia, Brazil. Plants obtained from Dr. H. H. Brown, St. Albans, Vt., through L. H. Dewey, Bureau of Plant Industry. Received May 6, 1925.

The caroa is a plant 4 or 5 feet high, of the same family as the pineapple, and is found wild in the caatingas or dry regions of eastern Brazil. The natives extract the fiber for the purpose of making baskets, ropes, and hammocks, but the quantity obtained is not sufficient for export. It is now introduced for trial in the southern United States by fiber-plant specialists. It is also being tested as a possible paper material.

63869 to 63875.

From Kwangtung Province, China. Seeds and rhizomes collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 7, 1925. Notes by Mr. McClure.

63869. PISUM SATIVUM L. Fabaceae. Pea.

No. 119. Village of Heunglokeuk, March 13, 1925. *Maak tau, Suet tau, Chun tau*. Seeds of a sturdy, low-growing, self-supporting vine which produces, in fair abundance, rather large peas of good flavor and quality. The flowers are very ornamental, the lower petal being pale lavender, the next pair wine red, and the inner pair pink. This variety, planted here in November, begins to bear in December or January and continues until March.

63870 to 63875. (Undetermined.) Poaceae. Bamboo.

63870. (Undetermined.)

No. 108. March 14, 1925. *Kom chuk*. A variety growing wild along a small stream in the Chunwong Mountains, near the village of Heunglokeuk, at an altitude of 300 meters. The young shoots of this bamboo are highly esteemed by the Chinese of this neighborhood. This bamboo, as seen in its native habitat, is rather small in stature, being only 2 to 2.5 meters in height and 1 to 1.5 centimeters in diameter between the lower nodes. Its best shoots are produced on the loose silt loam banks of the stream, but it can not hold its own here so well as on the wet sand and gravel at the edge of the water, where it produces an impenetrable network of rhizomes. It might be used to excellent advantage for preventing erosion in such situations.

63871. (Undetermined.)

No. 109, March 14, 1925. *Wong kom chuk*. Obtained from the wild, at an altitude of 300 meters, in the Chunwong Mountains, near Heunglokeuk. A dense grove of this bamboo, whose canes are about 3 meters in height and 1.5 to 2 centimeters in diameter between the lower nodes, completely conceals the tiny stream, along which these rhizomes were growing, for a considerable distance. This variety, like No. 108 [S. P. I. No. 63870], forms its toughest and most impregnable network of rhizomes in the wet sand immediately at the edge of the water, but its finest shoots are produced in the rich-brown loose soil of the bank near by. The shoots are edible, but the Chinese say that it is necessary to parboil them in order to remove the slightly bitter taste. The canes are put to a number of uses, particularly to the weaving of garden fences. The upper portions of the canes, with their numerous, slender side branches, are bound into brooms which are widely used locally and are shipped even as far as Canton.

63872. (Undetermined.)

No. 110. March 14, 1925. *Fat t'o chuk, Fat chuk*. These rhizomes are from the native vegetation in a ravine near Heunglokeuk, in the Chunwong Mountains, where this variety had been planted. This is another relatively small bamboo (2 to 2.5 meters high

63869 to 63875—Continued.

and 2 centimeters in diameter), whose edible shoots are considered a close second in quality to those of No. 108 [S. P. I. No. 63870]. This variety begins to sprout in early April, and here again, as elsewhere observed, I found the best shoots growing in damp loose loam. A peculiar characteristic of the canes is that prominent swellings occur just below the lower nodes, which are quite close together. The name Fat t'o probably refers to this peculiarity. In earlier days the lower sections of these canes brought a good price for handles of fans, but in recent years they are more in demand as pipe stems.

63873. (Undetermined.)

No. 111. Near the village of Heung-lokeuk. March 14, 1925. *Kan chuk*. This bamboo is commonly planted on the mountain sides and allowed to shift for itself among the native vegetation. Under these conditions the plant attains a height of 2 to 3 meters and a diameter of 1.5 to 2 centimeters. The coarse red soil in which these plants were growing is formed from granite. A thin layer of dark soil accumulates where the natural vegetation is permanent. The bamboo flourishes best, of course, where this layer is thickest. The young shoots are eaten, being taken just as they appear at the top of the ground. Its season begins about the middle of April.

63874. (Undetermined.)

No. 112. March 13, 1925. This bamboo was growing near the village of Heunglokeuk, where it is allowed to shift for itself among the native vegetation on the steep banks of a ravine. The canes reach a height of 4 meters and a diameter of 2 to 2.5 centimeters between the nodes in the habitat described, but the variety is said to become much larger under more favorable cultural conditions. The young shoots are of excellent quality and fair size. Their season begins in April.

63875. (Undetermined.)

[Sent in without notes.]

63876 to 63879. PISUM SATIVUM L.
Fabaceae. Pea.

From Wellington, New Zealand. Seeds obtained from F. Cooper, through D. N. Shoemaker, Bureau of Plant Industry. Received May 8, 1925.

Locally developed strains.

63876. *Austral*.

63877. *Richard Seddon*.

63878. *Te Aroha*.

63879. *Wellington*.

63880 to 63889. PISUM SATIVUM L.
Fabaceae. Pea.

From Bretigny sur Orge, France. Seeds obtained from L. Clause, through D. N. Shoemaker, Bureau of Plant Industry. Received May 8, 1925.

Locally developed strains.

63880 to 63889—Continued.

63880. *Duc de Manchester*.

63881. *Gris de Printemps*.

63882. *Gris d'Hiver*.

63883. *Gros blanc géant Victoria*.

63884. *Gros vert pour grande culture*.

63885. *Mangetout Nain Debeve*.

63886. *Sabre, race de Paris*.

63887. *Serpette améliorée, race de Paris*.

63888. *Trophy, très tardif*.

63889. *Union Jack*.

63890 to 63894. GOSSYPIMUM BARBADENSE
L. Malvaceae. Cotton.

From Egypt. Seeds presented by R. H. Forbes, Compagnie Générale des Colonies, Kulikoro, French Sudan, French West Africa. Received May 6, 1925. Notes by Mr. Forbes.

The following seeds are from the Bahtien Farm.

63890. No. 46a. Saka. *Fathi*.

63891. No. 46b. Upper Egypt.

63892. No. 46c. Saka. *Pilion*.

63893. No. 46d. Saka. *Ashmouni*.

63894. No. 46e. Saka. *Cazzouli*.

63895 to 63900.

From Tammisto, Malm, Finland. Seeds presented by J. O. Saulis, manager of the plant-breeding station, through C. R. Ball, Bureau of Plant Industry. Received May 12, 1925.

A collection of local varieties originated at Tammisto.

63895 to 63897. AVENA SATIVA L. Poa-
ceae. Oats.

63895. *Esa*.

63896. *Pelso*.

63897. *Vyto*.

63898 and 63899. HORDEUM DISTICHON
PALMELLA Harlan. Poaceae. Two-rowed barley.

63898. *Halikko No. 2*.

63899. *Uurainen*.

63900. HORDEUM VULGARE PALLIDUM Se-
ringe. Poaceae. Six-rowed barley.

Early 0233.

63901 to 63904. ORYZA SATIVA L. Poa-
ceae. Rice.

From Jorhat, India. Seeds presented by Dr. S. K. Mitra, Economic botanist to the Government of Assam. Received May 8, 1925.

The following varieties are from the Karimganj Farm.

63901. No. S-149. *Indra Sail*.

63902. No. S-156. *Nagra Sail*.

63903. No. S-159. *Dudshar*.

63904. No. S-232. *King's Own*.

63905 and 63906. TRITICUM AESTIVUM
L. (*T. vulgare* Vill.). Poaceae.
Common wheat.

From Tammisto, Malm, Finland. Seeds presented by J. O. Saulis, manager of the plant-breeding station, through C. R. Ball, Bureau of Plant Industry. Received May 12, 1925.

Local varieties originated at Tammisto.

63905. *Winter Sukkula.*

63906. *Spring Tammi.*

63907. LYCOPERSICON ESCULENTUM Mill.
Solanaceae. Tomato.

From Bordeaux, France. Seeds presented by Prof. L. Beille, director, Jardin Botanique de Talence. Received May 7, 1925.

Var. *cerasiforme*. A yellow-fruited form of the cherry tomato.

63908 to 63967.

From Chihli Province, China. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received May 5, 1925. Notes by Mr. Dorsett.

63908. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceae.

Peach.

No. 2393. March 14, 1925. *T'u t'ao* (wild peach) from Lijetsu, which is a big deciduous fruit-growing section in an immense broad level valley near Paotingfu. This variety is also called "earth peach" by the natives. It is used for stock upon which to graft or bud the commercial varieties.

63909. BENINCASA HISPIDA (Thunb.) Cogn. Cucurbitaceae. Wax gourd.

No. 2408. Loutai, near Peking. March 17, 1925. A winter variety.

63910 to 63915. BRASSICA spp. Brassicaceae.

Paotingfu. March 10, 1925.

63910. BRASSICA sp.

No. 2327. *Anhsu ta pai ts'ai* (large Anhsu cabbage). This variety is planted the latter part of July, later transplanted, and during October it is cut and stored in the cellar. The average weight is 15 to 16 pounds.

63911. BRASSICA sp.

No. 2328. *Pao tou pai ts'ai* (folding head cabbage), planted in July and later transplanted. This variety, the leaves of which fold in, grows to a height of about 14 inches and weighs 12 to 13 pounds.

63912. BRASSICA sp.

No. 2329. *Hsiao pai k'ou pai ts'ai* (small white mouth cabbage). A variety, about 12 to 13 inches high and with the leaves spreading out, which is planted in July or earlier. It is not commonly planted, but is said to be of very good quality.

63913. BRASSICA sp.

No. 2330. *Ho t'ao wen pai ts'ai* (walnut-hulled cabbage), commonly planted here. This variety, the head resembling a walnut hull, grows 13

63908 to 63967—Continued.

to 14 inches in height and weighs about 8 to 10 pounds.

63914. BRASSICA sp.

No. 2331. A variety which is said to have a diameter of 4 to 6 inches.

63915. BRASSICA sp.

No. 2332. *Shansi pe'i lan* (kohlrabi of Shansi). This seed came from Shansi Province and is said to grow to 8 or more inches in diameter.

63916. CANNABIS SATIVA L. Moraceae.
Hemp.

No. 2335. Paotingfu. March 10, 1925.

63917 and 63918. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.

63917. No. 2333. Paotingfu. March 10, 1925. *Ta hei kuan hsi kua* (large black-vase watermelon), said to have originally come from Shantung Province. This variety grows from 10 to 15 inches in diameter and 16 to 18 inches in length; the skin is black and the flesh yellow.

63918. No. 2334. Paotingfu. March 10, 1925. A small red-seeded watermelon also said to have originally come from Shantung Province. It is a red-fleshed, yellow-skinned variety about 8 inches in diameter and 16 to 20 inches in length.

63919. EUONYMUS sp. Celastraceae.

No. 2318. En route from Mentoukou to Toli. *Niang niang ch'uan* (empress hand). Obtained from a shrub growing out of the top of a monk's tomb or monument in what is known as Tartar Cemetery.

63920 and 63921. FAGOPYRUM VULGARE Hill (*F. esculentum* Moench). Polygonaceae. Buckwheat.

63920. No. 2355. Poyi. March 11, 1925. A locally grown variety.

63921. No. 2386. Shenchou. March 14, 1925. A locally grown variety.

63922. HIBISCUS CANNABINUS L. Malvaceae. Ambari hemp.

No. 2338. Paotingfu. March 10, 1925. *Ching ma* (green hemp). A locally grown variety.

63923. HOLCUS SORGHUM L. (*Sorghum vulgare* Pers.) Poaceae. Sorghum.

No. 2413. Loutai. March 17, 1925. A sticky white variety.

63924. HORDEUM sp. Poaceae. Barley.

No. 2341. Paotingfu. March 10, 1925. Called "king barley" or "awn barley."

63925. HORDEUM sp. Poaceae. Barley.

No. 2397. Tunkechuang. March 15, 1925. Called by the Chinese "rice barley."

63926. HORDEUM sp. Poaceae. Barley.

No. 2411. Loutai. March 17, 1925. These seeds are also called "rice barley" by the Chinese.

63927 and 63928. PANICUM MILIACEUM L. Poaceae. Proso.

63927. No. 2400. Loutai. March 17, 1925. An early variety which is used mostly for food during the New Year season.

63908 to 63967—Continued.

63928. No. 2409. Loutai. March 17, 1925. Seeds of a sticky variety of millet.
- 63929 to 63934. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Fabaceae.
Adsuki bean.
63929. No. 2348. Paotingfu. March 10, 1925. A small black variety.
63930. No. 2352. Poyi. March 11, 1925. Small white beans.
63931. No. 2404. Loutai. March 17, 1925. A small bean mottled gray and black.
63932. No. 2405. Loutai. March 17, 1925. A variety having small red beans.
- 63933 and 63934. No. 2412. Peking. March 17, 1925. A small variety which appears to be a mixture.
63933. A. Light-brown variety.
63934. B. Dirty straw-colored variety.
- 63935 to 63938. PHASEOLUS AUREUS Roxb. Fabaceae.
Mung bean.
63935. No. 2351. Paotingfu. March 10, 1925. A locally grown green variety.
63936. No. 2354. Poyi. March 11, 1925. A locally grown green variety.
63937. No. 2383. Shenchou. March 14, 1925. This is another locally grown green variety.
63938. No. 2398. Loutai. March 17, 1925. A yellow variety.
63939. PHASEOLUS VULGARIS L. Fabaceae.
Common bean.
- No. 2336. Paotingfu. March 10, 1925. A large red garden bean imported from northwestern China.
- 63940 to 63951. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae.
Soy bean.
- 63940 to 63950. Locally grown varieties.
63940. No. 2344. Paotingfu. March 10, 1925. A black variety.
63941. No. 2345. Paotingfu. March 10, 1925. *Ch'a tou* (tea soy bean). A large dark-brown variety.
63942. No. 2346. Paotingfu. March 10, 1925. This is a large green soy bean.
63943. No. 2347. Paotingfu. March 10, 1925. Small yellow variety.
63944. No. 2349. Paotingfu. March 10, 1925. Small green soy bean.
63945. No. 2353. Poyi. March 11, 1925. Green variety.
63946. No. 2357. Poyi. March 11, 1925. A large green soy bean.
63947. No. 2359. Poyi. March 11, 1925. This is a rather small black variety.
63948. No. 2381. Shenchou. March 14, 1925. A small black soy bean.
63949. No. 2382. Shenchou. March 14, 1924. A large deep-green variety.

63908 to 63967—Continued.

63950. No. 2384. Shenchou. March 14, 1925. This variety is small and light green.
63951. No. 2406. Loutai. March 17, 1925. *Ch'a tou* (tea soy bean). A variety having large mahogany-brown seeds.
63952. SPINACIA OLERACEA L. Chenopodiaceae.
Spinach.
- No. 2337. Paotingfu. March 10, 1925. *Paoting po ts'ai* (spinach of Paotingfu). A locally grown variety.
- 63953 to 63957. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae.
Common wheat.
63953. No. 2350. Paotingfu. March 10, 1925. A locally grown winter wheat.
63954. No. 2356. Poyi. March 11, 1925. Locally grown winter variety.
63955. No. 2387. Shenchou. March 14, 1925. Winter wheat which is locally grown.
63956. No. 2402. Loutai. March 17, 1925. White wheat, which is said to make the best flour.
63957. No. 2410. Loutai. March 17, 1925. Spring wheat.
- 63958 and 63959. VIGNA SESQUIPEDALIS (L.) Fruwirth. Fabaceae.
Yard Long bean.
63958. No. 2339. Paotingfu. March 10, 1925. A rather small, reddish, locally grown bean called by the Chinese "vegetable bean."
63959. No. 2401. Loutai. March 17, 1925. A terra-cotta colored variety also called "vegetable bean."
- 63960 to 63965. VIGNA SINENSIS (Torner) Savi. Fabaceae.
Cowpea.
63960. No. 2342. Paotingfu. March 10, 1925. A locally grown brown-eyed cowpea.
63961. No. 2343. Paotingfu. March 10, 1925. A pink cowpea mottled pink and white which is said to be locally grown.
63962. No. 2358. Poyi. March 11, 1925. A locally grown brown-eyed cowpea.
63963. No. 2385. Shenchou. March 14, 1925. A locally grown variety mottled brown.
63964. No. 2388. Shenchou. March 14, 1925. This is a brown-eyed variety which is locally grown.
63965. No. 2403. Loutai. March 17, 1925. A brown mottled cowpea.
- 63966 and 63967. ZEA MAYS L. Poaceae.
Corn.
63966. No. 2399. Loutai. March 17, 1925. An early yellow flint corn.
63967. No. 2407. Loutai. March 17, 1925. A late yellow flint variety.
63968. BAUHINIA BLAKEANA Dunn. Caesalpiniaceae.
- From China. Cuttings collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 20, 1925.

No. 122. Hong Kong Botanic Gardens. April 4, 1925. *Tez king, Hung fa tsz king*. A beautiful tree 10 meters high, with gray to buff-colored bark and large deep-green 2-lobed leaves whose shape suggests the common English name, "camel's foot." The deep-red flowers of this species are enormous compared with those of the other species known here (being as much as 7 centimeters in diameter), and are borne abundantly. They occur in long spikes, opening one floret at a time progressively from the bottom. The species is not known to have produced fruits here, the pistil dropping from the receptacle with the rest of the flower. Mr. Green, the superintendent of the gardens, says he has tried hand pollinating without success. The advantage of this species as far as the conditions here are concerned is that it is evergreen, its foliage being very healthy and verdant throughout the year, and that its flowers open during the winter months before the advent of the June bugs (usually in March or April), from whose voracious appetites no ornamental is immune. (*McClure*.)

63969. ORYZA SATIVA L. Poaceae.

Rice.

From Bangkok, Siam. Seeds presented by Phya Sihasakti Snidvongs, Director of Agriculture, through Dr. H. M. Smith, director Siamese Bureau of Fisheries. Received June 15, 1925.

A locally grown strain.

63970 and 63971. SESBAN spp. Fabaceae.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, division of botany. Received June 18, 1925.

63970. SESBAN AEGYPTIACUM Poir.

A stout shrubby plant, 6 to 10 feet in height, which, according to J. F. Rock (*The Leguminous Plants of Hawaii*, p. 154), is native in tropical Asia and northern Australia. The yellow flowers, spotted with purple, are borne in axillary clusters about 4 inches long. In Australia the leaves are much relished by livestock, and the wood is used in making charcoal for gunpowder.

63971. SESBAN CINERASCENS Welw.

Like the preceding, this tropical African shrub, according to Oliver (*Flora of Tropical Africa*, vol. 2), has yellow flowers spotted with purple. It has a graceful habit, with slender branches and compound leaves composed of 15 to 20 pairs of leaflets. The flowers are in lax clusters, and the pods are up to a foot in length.

63972. POA FLABELLATA (Lam.) Hook. f. Poaceae.

Tussock grass.

From Kew, Surrey, England. Seeds presented by Dr. Thomas V. Chipp, Royal Botanic Gardens. Received June 18, 1925.

These seeds originally came from the Falkland Islands. (*Chipp*.)

According to Hogg (*Vegetable Kingdom*, p. 823), this is a coarse grass which grows on peaty soil near the sea in the Falkland

Islands. It forms dense masses of stems which frequently rise to the height of from 4 to 6 feet, and the long tapering leaves hang over gracefully in curves, from 5 to 8 feet long and an inch wide at the base. The plant is much relished by cattle, being very nutritious and containing saccharin. The inner portion of the stem a little way above the root is soft and crisp and flavored like a hazelnut; the inhabitants of the Falkland Islands are very fond of it. They also boil the young shoots and eat them like asparagus.

63973 and 63974. PHALARIS BULBOSA Jusl. Poaceae.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received June 22, 1925.

A perennial, tufted grass, 2 to 3 feet high, with shiny leaves about two-fifths of an inch wide, native to the Mediterranean countries. It is now cultivated in New South Wales, where it appears to be an excellent permanent winter grass for coastal and table-land districts. It is drought resistant. Seed is difficult to save on account of shattering.

63973. No. 1. Received as *Phalaris coerulea*, but sample has been identified as *P. bulbosa*.

63974. No. 2.

63975. PHOENIX DACTYLIFERA L. Phoeniceae.

Date palm.

From Cairo, Egypt. Offshoots purchased through Ernest Wright and Mahmoud Bey Abaza, director of the horticultural section of the Egyptian Ministry of Agriculture, at the request of S. C. Mason, Bureau of Plant Industry. Received June 27, 1925.

The Samany date is one of the most striking and characteristic varieties of Lower Egypt, and by the natives it is counted one of the best. The trees are very heavy bodied and have longer leaves than any other variety I have measured. In fruit the Samany is easily the most striking and peculiar of all the delta varieties. The heavy, compact bunches are borne unevenly on coarse, strong strands, the fruits being about 2½ inches long and 1½ inches broad and rather oblique. The Samany never becomes a packing date, but is gathered hard ripe and used in confections or is eaten in the rutab stage. The offshoots command the highest prices of any variety in Egypt, for the reason that they are in great demand for planting in the gardens of the new country and suburban places around Alexandria. The feature that makes the Samany of especial promise is its ability to succeed in the cool, humid climate of the coastal region. (*Mason*.)

63976. BAMBOS sp. Poaceae. Bamboo.

From Algiers, Algeria. Plant collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received April 6, 1925.

Jardin d'Essais. A beautiful blue-stemmed species which is distinguished by the culm sheaths either being entirely devoid of ligules or else the ligules are very evanescent. (*Fairchild*.)

63977. GENISTA SPHAEROCARPA Lam.
Fabaceae.

From Morocco. Cuttings collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 24, 1925.

From near Demnat. May 31, 1925. A charming drooping desert shrub covered with delicate brilliant yellow flowers somewhat resembling small orchids. (Fairchild.)

63978 to 63997.

From Paris, France. Seeds presented by Prof. D. Bois, Paris Museum of Natural History. Received June 5, 1925.

A collection introduced chiefly for testing as forage plants.

63978 to 63983. ASTRAGALUS spp. Fabaceae.**63978. ASTRAGALUS RUBALOCERAS Maire.****63979. ASTRAGALUS FRIGIDUS A. Gray.**

A perennial upright or ascending, entirely unbranched or with very few branches. Native to alpine slopes throughout northern Europe and Asia.

63980. ASTRAGALUS GALEGIFORMIS L.

A perennial upright, slightly hairy plant 1 to 3 feet high, native to southeastern Europe and Asia Minor.

63981. ASTRAGALUS GLYCYPHYILLOIDES DC.

A perennial plant with ascending stems and rather large oval leaflets. Native to eastern Europe and Asia Minor.

63982. ASTRAGALUS HAMOSUS L.

An annual gray-green hairy plant with prostrate or ascending stems 8 inches to a foot in length. Native to sunny places in the Mediterranean countries.

63983. ASTRAGALUS PONTICUS Pall.

A hairy-stemmed species with dense axillary flower heads. Native to southern Russia.

63984. ERODIUM CICONIUM (Juss.) Willd.
Geraniaceae.

An annual hairy plant, belonging to the geranium family, with stout ascending branches, oval leaves, and purple flowers. Native to southern Europe and Asia Minor.

63985. ERODIUM MANESCAVI Coss. Geraniaceae.

A perennial plant, belonging to the geranium family, about a foot and a half high, with narrow leaves 6 inches or more in length and rosy purple flowers about 2 inches across. It grows wild in the Pyrenees Mountains.

63986. GAUDINIA FRAGILIS (L.) Beauv.
Poaceae. Grass.

An annual ascending grass, 8 inches to 2 feet high, with thick, roughly hairy leaves, confined almost entirely to the Mediterranean countries.

63987. JACARANDA CHELONIA Griseb. Bignoniacae.**63978 to 63997—Continued.**

An Argentinian tree, sometimes as much as 90 feet tall, with a rounded habit and attractive fernlike foliage. The large blue flowers are in terminal panicles a foot long. The wood is valued in Argentina for cabinetwork.

63988 to 63990. MELICA spp. Poaceae. Grass.**63988. MELICA ALTISSIMA L.**

A rather tall perennial European grass, 3 to 4 feet in height, with creeping rhizomes, which forms a loose turf. The leaf sheaths and the backs of the leaves are very rough.

63989. MELICA CILIATA L.

A gray-green perennial grass, with stolons 4 inches or more long and stems up to 3 feet in height. The leaf blades are narrow, with rough, bristly margins. Native to rocky places in eastern Europe.

63990. MELICA UNIFLORA Retz.

A bright-green perennial grass, native to shady humid places in eastern Europe. The creeping rhizome is about 4 inches long, and the thick lax stems bear three or four narrow leaves.

63991. PASPALUM RACEMOSUM Lam. Poaceae.

A tropical American grass which is best adapted to the moist or alluvial soils of the Southern States. It grows from a rootstock, with rather coarse tender stems and leaves, reaching a height of about 2 feet. It has promise as a hay or pasture grass. (C. V. Piper, Bureau of Plant Industry.)

63992. PHELEUM PHELOIDES (L.) Karst. (P. boehmeri Wibel.). Poaceae. Grass.

A perennial, gray-green, loosely caespitose grass, with a short creeping rhizome and stems 1 to 2 feet high. Native to dry stony places throughout central Europe.

63993. POECILANTHE PARVIFLORA Benth.
Fabaceae.

The *lapachillo*, as it is called in its native home on the Uruguay River, is a tree of great beauty, with its finely divided leaves and small but dense clusters of pink flowers. The heartwood is dark brown, very hardy, heavy, and durable.

63994. TRIFOLIUM RUBENS L. Fabaceae.

A perennial clover with a widely creeping rhizome and upright glabrous stems 1 to 2 feet high. Native to rocky places and thickets in the Mediterranean region.

63995. TRIFOLIUM SQUARROSUM L. Fabaceae.

An upright or ascending robust annual, with branches up to 30 inches in length, native to the Mediterranean countries. The pink or white flower heads are oval when young, becoming more elongated later.

63996. TRIGONELLA ENSIFERA Trautv. Fabaceae.

An annual leguminous plant, very closely allied to the fenugreek (*Trigonella foenum-graecum*), from which it differs chiefly in having hairy pods and the lack of odor in its seeds. Its native country is unknown.

63978 to 63997—Continued.

63997. *TRIGONELLA HAMOSA* L. Fabaceae.

An annual leguminous plant, native to northern Africa and Asia Minor, with elongated prostrate stems up to 2 inches long.

63998 to 64001.

From Sydney, New South Wales. Seeds presented by J. A. Whittet, agrostologist, New South Wales Department of Agriculture. Received June 22, 1925.

63998. *ACACIA ANEURA* F. Muell. Mimosaceae.

In New South Wales, where this tall shrub is native, it is known as the mulga, or yarren, and in times of severe drought it is considered a good source of forage for livestock. The wood is very hard and is valued as timber.

63999. *ACACIA PENDULA* A. Cunn. Mimosaceae.

A handsome evergreen tree, native to Australia, where the leaves and young branches are eagerly eaten by cattle and sheep. In times of drought the myall, as the tree is called in Australia, is frequently cut down and fed to stock, which seem to thrive on this fodder. Horses do not care for it.

For previous introduction see S. P. I. No. 62867.

64000. *GEIJERA PARVIFLORA* Lindl. Rutaceae.

The wilga is a tall shrub or a tree, native to the interior of New South Wales, where it reaches a height of about 30 feet. It has slender pendulous branches, narrow leaves 3 to 6 inches long, and when well developed has a highly ornamental appearance with something of the aspect of a weeping willow. It has remarkable drought-enduring qualities, and the leaves are often fed to sheep, which are very fond of them.

For previous introduction see S. P. I. No. 62865.

64001. *STERCULIA DIVERSIFOLIA* Don. Sterculiaceae.

A tall evergreen Australian tree with shining green foliage. In New South Wales it is called the "kurrajong." The leaves are fed to cattle in the arid interior lands. This may be the same as the tree now grown in California under the same name.

For previous introduction see S. P. I. No. 49002.

64002 and 64003. *Gossypium* spp. Malvaceae. Cotton.

From Rabat, Morocco. Seeds presented by Em. Miège, chief, Service de l'Expérimentation Agricole au Maroc. Received June 23, 1925.

Sar-sar cotton. According to its discoverer, Mr. Miège, this cotton has been given the name of the native tribe which has been growing it from time immemorial. In all probability it is a hybrid between *Gossypium peruvianum* and *G. punctatum*. As described by Mr. Miège, in his Note sur un Cotonnier Marocain, published in the Annales du Musée Colonial de Marseille, series 4, vol. 2, 1924, this is a variety which in actual tests in Rabat and Casa

Blanca has proved to possess an unusual degree of precocity, resistance to drought, and length of fiber and strength which classes it with the Yuma in value to the spinners. While still unimproved sufficiently to be called a pure cotton, its behavior under the dry-land conditions of Morocco on laterite silicious soils where the rainfall is only 800 millimeters per year warrants its being thoroughly studied by American cotton breeders. (*David Fairchild, Bureau of Plant Industry.*)

64002. *Gossypium* sp.

Seeds from the 1923 crop.

64003. *Gossypium* sp.

Seeds from the 1924 crop.

64004. *HORDEUM VULGARE PALLIDUM* Ser'nge. Poaceae. Six-rowed barley.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received June 23, 1925.

Orge Chedret. Collected in the Sahara Desert. April, 1925. (*Trabut.*)

64005. *IRIS PUMILA* L. Iridaceae.

From Tiflis, Georgia, Caucasus. Seeds presented by the director of the botanic garden. Received June 30, 1925.

Var. *violacea*.

A dwarf hardy iris with linear leaves 2 to 4 inches long, stemless or nearly so, with bright-blue flowers. It is native to southeastern Europe and Asia Minor, and under cultivation spreads rapidly.

64006 to 64013. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze. Musaceae. Banana.

From Honolulu, Hawaii. Suckers presented by Willis T. Pope, horticulturist, Hawaii Agricultural Experiment Station. Received May, 1925.

64006. The *Brazilian*, as it is known locally, is considered by some authorities as the finest variety in the Hawaiian Islands for eating raw. According to Bulletin 7 of the Hawaii Agricultural Experiment Station, page 45, it was introduced into Hawaii from Tahiti about 1855 and probably is the same as the variety known in Java as *pisang rajah* or *pisang medji*, the "dessert banana." The plant is a vigorous grower, 25 to 35 feet high, roots firmly and withstands winds, ratoons freely and serves as a windbreak for more delicate varieties. The flower end of the fruit is drawn out into a kind of beak. The skin is yellow, easily separating from the fruit. The variety is not satisfactory for shipping, because the fruit falls from the stem.

For previous introduction see S. P. I. No. 58447.

64007. *Chamaluco*. This variety is described as follows in Bulletin 25, Departamento de Agricultura y Trabajo, Porto Rico, page 19: The plant is from 10 to 15 feet in height, with medium-sized leaves, and, when grown in fertile soil, the bunches of fruit are rather large. There are two types, one with green and the other with gray fruits. The greater part of these fruits are eaten cooked at the time when other varieties are ripe.

64006 to 64013—Continued.

For previous introduction see S. P. I. No. 58448.

64008. Chinese. A variety introduced from Tahiti into the Hawaiian Islands about 1855 and described in Bulletin 7 of the Hawaii Agricultural Experiment Station, page 44, as follows: The plant is of very low growth, the fruit of good flavor, and the bunch of large size. It is an excellent variety for shipping.

For previous introduction see S. P. I. No. 58449.

64009. Largo. According to J. E. Higgins (Bulletin 7, Hawaii Agricultural Experiment Station), this variety was introduced into Hawaii from Mexico. The plant is of medium height, and the fruits, borne in long-stemmed bunches, have buttery pink flesh of fair flavor.

For previous introduction see S. P. I. No. 55250.

64010. Porto Rico.

64011. Red Spanish. This variety, also known as Red Jamaica, has red-skinned fruits which are shorter and thicker than those of the Gros Michel, and the bunches are smaller. It is found in the West Indies and Central America. Although the fruits have a pleasant flavor, there is a very limited demand for this variety.

64012. Ice Cream.

64013. Iholena. In Bulletin No. 7 of the Hawaii Agricultural Experiment Station this is described as a low plant, usually about 9 feet high. The rather stout petioles are light green with pink margins, and the young leaves are slightly bronzed on the lower surfaces. The fruits are loosely arranged, in small bunches, and stand out almost at right angles. The mature fruits are angular, and black areas appear on the yellow skin when thoroughly ripe. The flesh is pink. This is regarded as one of the best native bananas for eating raw or cooked.

64014 and 64015.

From Kwangtung Province, China. Collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received April 20, 1925. Notes by Mr. McClure.

64014. COLOCASIA ESCULENTA (L.) Schott.
Araceae. **Taro.**

No. 86. Lintan. February 18, 1925. *Tsat tsuen u.* Tubers of a cylindrical variety whose possibilities as to size are expressed in its name, the "seven-inch taro." It is said to be a good yielder and keeps well, and the flavor is excellent. The Chinese use it in making a delicious dish called U Ha, which is prepared by shredding the taro and frying it in deep fat.

64015. MARANTA ARUNDINACEA L. Ma-
rantaceae. **Arrowroot.**

No. 87. Takhing. February 19, 1925. *Shek chuk u.* These rhizomes were purchased under the name Kaau sun. This variety is eaten to a certain extent by the Chinese, but is quite fibrous and to me not very palatable.

64016 to 64021. VIGNA SINENSIS (Tor-
ner) Savi. Fabaceae. **Cowpea.**

From Giza, Egypt. Seeds presented by Dr. Tewfik Fahmy, Ministry of Agriculture. Received May 16, 1925.

Locally developed strains.

64016. Dirry No. 2.

64017. Rust Immune.

64018. Baladi.

64019. Dirry No. 4.

64020. Asmerli.

64021. Dirry Nos. 3 and 5.

64022 to 64029.

From Tashkent, Russia. Seeds presented by the Tashkent Experiment Station. Received May 16, 1925.

Locally grown seeds.

64022. HORDEUM VULGARE PALLIDUM Ser-
inge. Poaceae. **Six-rowed barley.**

64023 to 64026. PHASEOLUS AUREUS Roxb.
Fabaceae. **Mung bean.**

64023. No. 1. 64025. No. 3.

64024. No. 2. 64026. No. 4.

64027 to 64029. VIGNA SINENSIS (Torner)
Savi. Fabaceae. **Cowpea.**

64027. No. 1. 64029. No. 3.

64028. No. 2.

64030 to 64044.

From Rio de Janeiro, Brazil. Seeds presented by Dr. Pacheco Leão, director, Botanic Garden. Received May 18, 1925.

64030. ABUTILON RAMIFLORUM St. Hil.
Malvaceae.

This is described by St. Hilaire (Flora Brasiliae Meridionalis, vol. 1, p. 199) as a shrubby, densely hairy plant with stems up to 6 feet in height, heart-shaped leaves, and panicles of yellow flowers.

64031. AESCHYNOMENE ELAPHROXYLON
(Guill. and Perr.) Taub. Fabaceae.

The ambash has light foliage similar to that of the ordinary acacia, but differs in having very large pealike orange-yellow flowers. It forms at times a trunk 10 inches in diameter, and the wood is exceedingly light, a log 10 feet long weighing only a few pounds. Along the upper Nile it is much used in making rafts and huts. It should be valuable in a great many ways. (Note by H. L. Shantz under S. P. I. No. 61634.)

64032. WENDEROTHIA MATTOGROSSSENSIS
(Barb. Rodr.) Piper (*Canavalia mat-*
togrossensis Malme.). Fabaceae.

A Brazilian vine, described by C. V. Piper (Contributions from the United States National Herbarium, vol. 20, pt. 14) as a slender-stemmed herbaceous plant, with oval membranous leaflets, lilac flowers, and densely hairy pods.

64033. CRACCA ADUNCA (Benth.) Kuntze
(*Tephrosia adunca* Benth.). Fabaceae.

A herbaceous perennial leguminous plant, with a decumbent hairy stem, which grows wild in the dry pastures of Minas Geraes, Brazil.

64030 to 64044—Continued.

64034. DYSOLOBIUM GRANDE (Kurz) Prain.
Fabaceae.

A woody climbing plant from the mountains of northeastern India, with bright-green hairy leaves and reddish flowers about an inch broad in racemes 6 to 9 inches long. Probably suited best for growing in southern Florida.

64035. FLEMINGIA STROBILIFERA (L.) Ait.
Fabaceae.

An erect purple-flowered shrub, 8 to 10 feet high, with slender velvety branches and oblong leaves with silky lower surfaces. It is native to India. The flowers are in zigzag racemes 3 to 6 inches long, with large bracts which nearly hide the flowers. It is tropical in its requirements and is adapted for growing only in the warmest parts of the United States.

64036. INDIGOFERA SUFFRUTICOSA Mill. (*I. anil* L.). Fabaceae.

A bushy shrub, 3 to 5 feet high, with hairy pinnate leaves and yellow pealike flowers. It is commonly cultivated throughout the Tropics as a dye plant and is said to be native to tropical America.

64037. MANIHOT GLAZIOVII Muell. Arg.
Euphorbiaceae. Ceara rubber.

Ceara rubber, obtained from this tree, is one of the important rubbers of commerce.

For previous introduction see S. P. I. No. 61497.

64038 to 64040. MEIBOMIA spp. Fabaceae.

64038. MEIBOMIA GYRANS (L. f.) Kuntze
(*Desmodium gyrans* DC.).

Telegraph plant.

An erect perennial plant, 2 feet or less high, which is said to be useful as fodder. It is native to moist situations in southern and eastern India.

64039. MEIBOMIA LABURNIFOLIA (Poir.)
Kuntze (*Desmodium laburnifolium* DC.).

A white-flowered shrub from the mountainous districts of the tropical Himalayas. The shining green rigid leaflets and white flowers may render the shrub of ornamental value for the Southern States.

64040. MEIBOMIA PULCHELLA (L.)
Kuntze (*Desmodium pulchellum* Benth.).

A red-flowered leguminous shrub with hairy trifoliolate leaves, which is native to southern India. The flowers are in spikelike racemes. The plant may have merit as an ornamental shrub for the Southern States, and possibly also as forage.

64041. ORMOSIA ARBOREA (Vell.) Harms.
Fabaceae.

According to Vellozo (Flora Fluminensis, p. 303), this tree has arborescent stems, little-branched pinnate leaves, and terminal compound racemes of violet flowers. The oblong pods inclose round red seeds marked with black spots. Native to southern Brazil.

64042 to 64044. PAVONIA spp. Malvaceae.

64030 to 64044—Continued.

64042. PAVONIA PANICULATA Cav.

A shrub, described (Cavanilles, Dissertationes, vol. 1, p. 135) as about 4 feet high, having white hairs, heart-shaped leaves, and yellow flowers about an inch across. Native to Peru.

64043. PAVONIA SEPIUM St. Hill.

A Brazilian shrub described by St. Hilaire (Flora Brasiliae Meridionalis, vol. 1, p. 225) as 2 to 6 feet high, with slender terete branches and oval-oblong leaves 3 to 4 inches in length. The solitary golden-yellow flowers are about an inch wide.

64044. PAVONIA SPINIFEX (L.) Cav.

A slender shrub, sometimes 20 feet high, with hairy oval heart-shaped leaves and handsome large yellow flowers. It is native to southern South America and yields a fiber said to be of fine texture and excellent quality.

64045 to 64047. PISUM SATIVUM L.
Fabaceae. Pea.

From Sydney, New South Wales. Seeds obtained from Anderson & Co., through D. N. Shoemaker, Bureau of Plant Industry. Received May 25, 1925.

Locally developed strains.

64045. Greenfeast. A very prolific early dwarf variety grown extensively for market purposes. (*Catalogue of Anderson & Co.*)

64046. Home Delight. A second early variety, 18 inches to 2 feet in height, which is strong and vigorous. The foliage and pods are pale green; each pod bears five to six large peas with a fine marrowfat flavor. In a test this variety produced 30½ bushels of peas from a quarter of an acre.

64047. Richard Seddon. One of the finest of the early dwarf varieties, having a height of 20 inches. The pods are large and well filled. (*Catalogue of Anderson & Co.*)

64048 to 64051.

From Dundas, New South Wales. Seeds obtained from H. J. Rumsey, through D. N. Shoemaker, Bureau of Plant Industry. Received May 25, 1925.

Locally developed strains.

64048 to 64050. PISUM SATIVUM L. Fabaceae. Pea.

64048. Greenfeast.

For previous introduction and description see S. P. I. No. 64045.

64049. Richard Seddon.

For previous introduction and description see S. P. I. No. 64047.

64050. Te Aroha. Large dark-green pods. (*Rumsey.*)

64051. LOTUS TETRAGONOLOBUS L. Fabaceae.

A purple-flowered annual from the eastern Mediterranean countries, where, according to Bonnier (Flore Complète de France, Suisse, et Belgique, vol. 3, p. 43),

64048 to 64051—Continued.

it frequents the edges of cultivated fields, roadsides, etc. It is more or less hairy with obovate leaflets. The edible seeds are sometimes used as a substitute for coffee, and the plant is often cultivated as an ornamental.

For previous introduction see S. P. I. No. 56670.

64052 and 64053. *HIPPEASTRUM* spp. Amaryllidaceae. Amaryllis.

From Brazil. Bulbs collected by Agnes Chase, Bureau of Plant Industry. Received May 28, 1925. Notes by Mrs. Chase.

64052. *HIPPEASTRUM* sp.

May 3, 1925. An amaryllis found below the summit of Pontao Crystal, Serra do Caparaó, Minas Geraes, at an altitude of about 8,000 feet.

64053. *HIPPEASTRUM* sp.

A crimson-flowered amaryllis, about 6 inches long, from the summit of Serra da Gramma, Minas Geraes, at an altitude of about 6,000 feet.

64054 to 64056. *BAMBOS* spp. Poaceae. Bamboo.

From Kwangtung Province, China. Offshoots collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received June 3, 1925. Notes by Mr. McClure.

64054. *BAMBOS* sp.

No. 123. Canton Christian College. January 28, 1925. *Tai t'au tim chuk*. A large bamboo, 6 to 10 meters high and 6 to 10 centimeters in diameter, which is the most commonly and extensively cultivated variety around Canton. When the plants become established and the canes reach mature size, they are fertilized during January or February with liquid or well-rotted manure. The earth is then banked up around the base of the clump to a height of about 4 to 6 decimeters, and when the young sprouts appear above this they are unearthed by means of a hoe. This bamboo is a gross feeder and requires much fertilizer in order to make its best growth. It seems to be particular as to the soil.

64055. *BAMBOS* sp.

No. 124. Canton Christian College. January 28, 1925. *Tiu shi k'au chuk*. A medium-sized bamboo 6 to 8 meters high and 3 to 5 centimeters in diameter, whose young shoots are edible.

64056. *BAMBOS* sp.

No. 125. Canton Christian College. January 28, 1925. A very large bamboo, attaining in fertile, moist soil a height of 15 meters and a diameter of 12 centimeters. The young shoots are edible and very sweet, hence the name *T'im chuk*.

64057. *GLADIOLUS BYZANTINUS* Mill. Iridaceae.

From Morocco. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 4, 1925.

From the cork-oak forest of Mamora, near Rabat. April 27, 1925. A slender, delicate species with purple-red flowers and much

more grasslike in habit than the cultivated forms generally. It might give delicacy of form to hybrids. (Fairchild.)

64058 to 64065. *CROTALARIA* spp. Fabaceae.

From Kirstenbosch, Cape Province, Union of South Africa. Seeds presented by Prof. R. H. Compton, director, National Botanic Gardens. Received June 26, 1925.

A collection of crotalarias, introduced for testing as cover crops.

64058. *CROTALARIA CAPENSIS* Jacq.

A stout, much-branched South African shrub about 4 feet in height, with broadly oval leaves and pure-yellow flowers in many-flowered racemes.

For previous introduction see S. P. I. No. 59319.

64059. *CROTALARIA INCANA* L.

A tropical American plant about 3 feet high, erect, branched, and somewhat shrubby, and softly gray pubescent. The yellow flowers are crowded in 12 to 20 flowered elongated racemes 2 to 8 inches long. This plant occurs in waste places throughout the Tropics and is in flower all the year.

For previous introduction see S. P. I. No. 51834.

64060. *CROTALARIA LEIOLOBA* Bartling.

A species from the mountainous districts of northeastern India, and also distributed throughout the East Indies. It is one of the more robust of the herbaceous species, with fine-silky branches and leaves, the latter being oblong and about 2 inches in length.

For previous introduction see S. P. I. No. 59320.

64061. *CROTALARIA RETUSA* L.

An annual plant, a foot or more high, distributed throughout the Tropics of both hemispheres. The flowers, which are yellow streaked with purple, are in terminal racemes.

For previous introduction see S. P. I. No. 51842.

64062. *CROTALARIA SPECTABILIS* Roth.

A stout shrub, 3 to 5 feet high, native to India and sometimes cultivated in the Punjab for the sake of its yellowish purple flowers produced in dense lax racemes often 20 inches in length.

For previous introduction see S. P. I. No. 51839.

64063. *CROTALARIA STRIATA* DC.

A handsome perennial tropical plant, ultimately about 6 feet high, with spikes of yellow flowers. In Guatemala the young leaves are eaten boiled with rice or meat, and the plant is considered good forage.

For previous introduction see S. P. I. No. 52531.

64064. *CROTALARIA USARAMOENSIS* Baker f.

This East African crotalaria has been tested in Java as a green manure, according to P. J. S. Cramer, director of the Department of Agriculture, Buiten-

64058 to 64065—Continued.

zorg. Doctor Cramer states that it has proved very successful as a green manure when grown in alternation with corn, producing large quantities of vegetation rich in nitrogen. In the cinchona plantations it is very satisfactory, as it endures partial shade and forms a dense low growth which keeps the edges of the terraces together.

For previous introduction see S. P. I. No. 57831.

64065. *CROTALARIA VERRUCOSA* L.

An annual leguminous plant, cosmopolitan in the Tropics, which reaches a height of a foot and a half, with simple oval leaves, and racemes of showy white and blue flowers

For previous introduction see S. P. I. No. 51119.

64066 to 64070.

From Giza, Egypt. Seeds presented by Mah. Abaza, director, horticultural section, Ministry of Agriculture. Received June 27, 1925.

To be tested as green-manure and cover-crop plants.

64066 to 64068. *CROTALARIA* spp. Fabaceae.64066. *CROTALARIA CANDICANS* Wight and Arnott.

A stiffly erect, much-branched, shrubby species, with hairy and somewhat leathery, broadly rounded leaves, and panicles of small silky yellow flowers. Native to southwestern India.

For previous introduction see S. P. I. No. 59318.

64067. *CROTALARIA LEIOLOBA* Bartling.

A species from the mountainous districts of northeastern India and also distributed throughout the East Indies. It is one of the more robust of the herbaceous species, with fine silky branches and leaves, the latter being oblong and about 2 inches in length.

For previous introduction see S. P. I. No. 59320.

64068. *CROTALARIA TETRAGONA* Roxb.

An erect stiff shrub, often 6 feet in height, which grows wild in the Himalayas of northeastern India, ascending to an altitude of 3,500 feet. The silky membranous narrow leaves are sometimes a foot long, and the lemon-yellow flowers are produced in lax racemes 6 inches or more in length.

For previous introduction see S. P. I. No. 59321.

64069. *SESBAN ACULEATUM* (Schreb.) Poir. Fabaceae.

A tall-growing annual plant from tropical and subtropical Asia, which is used there as green manure and also for fodder. It is a vigorous grower and is said to thrive in semiarid regions.

For previous introduction see S. P. I. No. 58978.

64070. *SESBAN SERICEUM* (Willd.) DC. Fabaceae.

An unarmed shrubby annual, often several feet in height, native to the plains

64066 to 64070—Continued.

of Ceylon. The silky pinnate leaves are about a foot in length, and the flowers, pale yellow dotted with red, are in lax racemes.

For previous introduction see S. P. I. No. 59322.

64071 to 64074.

From Kwangtung Province, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received June 30, 1925. Notes by Mr. McClure.

64071. *PISUM SATIVUM* L. Fabaceae.

Pea.

No. 147. Ahliuwat, near Taip'ingshi. April 20, 1925. *Suet tau, Chun tzu*. A pea grown rather extensively in this region and promising for two reasons: The vines are self-supporting, and the young pods are tender enough to be eaten. I have eaten them and find them deliciously tender and sweet.

64072. *RUBUS* sp. Rosaceae.

No. 144. En route from Want'ong to Kong'tuen. April 23, 1925. *P'o tsai lak, Tam p'o tsai*. A wild red berry with a flavor somewhat resembling that of a blackberry. The fruits do not separate readily from the receptacle. The brambles are low, being $1\frac{1}{2}$ to 3 feet in height, and very spiny. They seem to be growing well on a red subsoil laid bare by erosion.

64073. *RUBUS* sp. Rosaceae.

No. 145. Near Kongtuen. *She p'au lak*. A large, globular, loosely organized wild raspberry which bears white flowers. The fruits separate freely from the receptacle. The low herbaceous brambles appear to thrive well on the sandy soil near streams, where they grow in profusion.

64074. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 148. Ahliuwat, near T'aip'ingshi. April 20, 1925. *Min nak*. A locally grown wheat sown broadcast in September or October, after the last rice crop is harvested (usually during the month of March), or in time for the first crop of rice. It is sown at about the rate of 24 pounds per acre, and soy-bean cake, peanut cake, or animal excreta are applied as fertilizer.

64075 to 64083.

From Lamac, Bataan, Philippine Islands. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture. Received June 18, 1925.

64075 to 64081. *COIX LACRYMA-JOBI* MAYUEN (Rom.) Stapf. Poaceae. Adlay.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64075. *Cebu*.64076. *Cotabato*.64077. *Lamac*.64078. *La Union Red*.

64075 to 64083—Continued.

64079. *La Union White*.64080. *Momungan*.64081. *Mount Province*.64082 and 64083. *HOLCUS SORGHUM* L.
(*Sorghum vulgare* Pers.). Poaceae.
Sorghum.64082. *Basso*.64083. *Basso Red*.64084. *Cosmos* sp. Asteraceae.

Cosmos.

From Reading, England. Seeds purchased from Sutton & Sons. Received February 25, 1925. Numbered April, 1925.

Miniature Yellow. A variety with rich-yellow starlike flowers produced in great abundance; the plants form compact bushes about 18 inches high. (*Sutton's Catalogue*, 1924.)64085. *HIPPEASTRUM* sp. Amaryllidaceae.

From Brazil. Bulbs collected by Agnes Chase, Bureau of Plant Industry. Received June 19, 1925.

Serra do Caparao, Minas Geraes. This I believe to be the same as the plant seen at Serra da Gramma [S. P. I. No. 64053], which had red lilylike flowers 5 to 6 inches long, borne in twos or threes at the apex of the scape. The leaves are about 2 inches wide and a foot long, and fleshy, like hyacinth leaves. (*Mrs. Chase*.)

64086 and 64087.

From Rabat, Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 29, 1925. Notes by Doctor Fairchild.

64086. *DIPCAD I SEROTINUM* Medic. Liliaceae.

A bulbous plant growing about a foot high and producing a slender spike of salmon-colored flowers shaped much like those of a hyacinth. It forms patches in the deep sandy soil of the forest of Mamora.

64087. *LEUCOJUM TRICHOPHYLLUM* Schousb. Amaryllidaceae.

A graceful bulbous plant, 2 feet high, found in the sandy soil in the forest of Mamora. This plant, with its white hanging flowers, three or four on each stem, gives a delicate touch to the border.

64088 and 64089. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortun, director, Estación Experimental Agronomica, through E. W. Brandes, Bureau of Plant Industry. Received June 8, 1925.

Locally developed strains.

64088. *C. O. 210*.64089. *C. O. 213*.

64090 to 64099.

From Tiflis, Caucasus. Seeds presented by the director of the Botanic Garden. Received May 18, 1925.

64090 to 64099—Continued.

64090 to 64092. *AGROPYRON* spp. Poaceae.
Grass.64090. *AGROPYRON CRISTATUM* (L.) Gaertn.

A perennial thickly caespitose grass, with stout rhizomes, native to southeastern Europe.

64091. *AGROPYRON ORIENTALE* (L.) Roem. and Schult.

An annual much-branched grass, prostrate-ascending in habit, native to sandy places in Asia Minor and Turkestan.

For previous introduction see S. P. I. No. 61389.

64092. *AGROPYRON ORIENTALE LASIANTHUM* Boiss.

An annual grass, thickly branched at the base, with numerous mostly prostrate stems scarcely 8 inches high. Native to Asia Minor and North Africa.

64093. *AVENA BARBATA* Brot. Poaceae.
Grass.

An annual or biennial grass, up to 30 inches in height. Native to southern Europe.

64094. *AVENA LUDOVICIANA* Durieu. Poaceae.
Grass.An annual or biennial grass, very similar to *Avena sterilis*, but smaller. Native to southern Europe.64095. *ORYZOPSIS HOLCIFORMIS* (Bieb.) Hack. Poaceae.
Grass.

A perennial grass, with a thick short rhizome and stems 3 feet or more in height. The panicles are a foot or more long. Native to southern and southeastern Europe.

64096. *ORYZOPSIS PARADOXA VIRESCENS* (Trin.) Richter. Poaceae.
Grass.

A perennial densely caespitose grass, with rough stems up to 4 feet in height. The spreading panicles are about 8 inches long. Native to southern Europe and Asia Minor.

64097 to 64099. *TRITICUM* spp. Poaceae.
Grass.64097. *TRITICUM CYLINDRICUM* (Host) Ces. Pass. and Gib.

An ornamental annual grass with stiff, upright stems and narrow leaves. Native to dry sandy places in southern and southeastern Europe.

64098. *TRITICUM SPELTOIDES* (Tausch) Grenier.

A bushy grass, branching from the base, with slender erect stems bearing rough narrow leaves and stiff rather loose spikes of long-awned flowers. It is a native of western Asia, found especially in Syria, and is considered to have been one of the species from which the cultivated wheats were derived.

64099. *TRITICUM TRIUNCIALE* (L.) Gren. and Godr.

A thickly branched annual grass, with ascending stems and flat rough leaves. Native to dry places in the Mediterranean region.

64100. MEDICAGO SATIVA L. Fabaceae.
Alfalfa.

From Santiago, Chile. Seeds presented through H. L. Westover, Bureau of Plant Industry. Received May 23, 1925.

Alfalfa seeds received from the Ministerio de Industria y Obras Publicas, Estación Enologica de Chile. (Westover.)

64101. CROTON FLORIBUNDUS Spreng.
Euphorbiaceae.

From Sao Paulo, Brazil. Seeds presented by Amandeu Barbiellini. Received May 28, 1925.

Velame or *Capiwingui*. A wild tree which produces an abundance of seeds. These constitute an ideal cheap food for domestic fowls, especially chickens. (Barbiellini.)

64102. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae.

Common wheat.

From Svalof, Sweden. Seeds presented by Dr. A. Akerman, Sveriges Utsädesforening. Received May 28, 1925.

Sammetsvate. An old unimproved "land" wheat which is still cultivated here and there in central Sweden. It is exceedingly winterhardy and of excellent quality, but has no lodging resistance, is susceptible to rust, and is of relatively low production. (Akerman.)

64103 to 64108. ORYZA SATIVA L. Poaceae.
Rice.

From Nokkeushimachi, Hokkaido, Japan. Seeds presented by Dr. T. Watanabe, director, Kitami branch, Hokkaido Agricultural Experiment Station. Received May 28, 1925. Notes by Doctor Watanabe.

64103. No. 1. *Kitamiakake*. A mass variety with awned ears.

64104. No. 2. *Bozugogo* No. 5. A pure line selected in our station, with awnless ears. This variety is rather late in maturing.

64105. No. 3. *Bozurokugo* No. 6. A pure line selected in our station.

64106. No. 4. *Hashiribozu*. A fixed hybrid selected in our station. This is our earliest awnless variety.

64107. No. 5. *Wasebozu*. A mass variety with awnless ears, which is fragrant when cooked. An early ripening variety.

64108. No. 6. *Sakigake*. A mass variety with red awns and brown hulls.

64109 to 64113. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae.

Common wheat.

From Kharkof, Russia. Seeds obtained from the All-Ukrainian Seed-Producing Association, through J. A. Clark, Bureau of Plant Industry. Received June 1, 1925.

Locally developed strains.

64109. *Kooperatorka*. From the Odessa Experiment Station.

64110. N. 351. From the Udichskaia Experiment Station.

64111. *Semka*.

64109 to 64113—Continued.

64112. The "*Our-Concur*." From the Ivanovskaia Experiment Station.

64113. N. 491. From the Verchnichscala Experiment Station.

64114 to 64116.

From Cape Town, Cape Province, Union of South Africa. Seeds presented by Dr. Rudolph Marloth, through H. L. Shantz, Bureau of Plant Industry. Received June 3, 1925. Notes by Doctor Shantz.

64114. CYANELLA CAPENSIS L. Amaryllidaceae.

No. 495. This plant, known in South Africa as "*Raap unitje*" or "*Raaptol*," has lilac flowers with yellow anthers; these flowers appear in summer when the leaves are mostly withered. The corms form an article of food for the natives.

64115. ERICA NANA Salisb. Ericaceae.

No. 497. A very small shrubby plant, with procumbent stems and relatively large yellowish flowers. This was probably grown by Doctor Marloth in his gardens at Cape Town.

64116. PSEUDOGALTONIA PECHUELLI Kuntze. Liliaceae.

No. 496. A bulbous plant, native to Great Namaqualand and Hereroland. The flowers are green and white, and under normal conditions the plant flowers in a leafless condition just before the rainy season; under cultivation the leaves often come first, before the flowers. The plant is very poisonous.

64117 to 64122.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received May 19, 1925.

64117 to 64119. BOEHMERIA spp. Urticaceae.**64117. BOEHMERIA PLATYPHYLLA D. Don.**

A large shrub or small tree, native to eastern and southern India, which, according to Watt (Dictionary of the Economic Products of India, vol. 1, p. 481) is said to yield good fiber. The reddish brown wood is moderately hard.

64118. BOEHMERIA RUGULOSA Wedd.

A small tree with gray-brown branches, which is native in the mountainous districts of northeastern India. The moderately hard durable reddish wood is used in the manufacture of buckets, boxes, etc.

64119. BOEHMERIA SIDAEOFOLIA Wedd.

A slender shrubby plant, erect or bushy, with oval hairy leaves; it is native to subtropical regions of northeastern India. Several species of this genus are valued in India as fiber-producing plants.

64120. CROTALARIA TETRAGONA Roxb. Fabaceae.

An erect stiff shrub, often 6 feet in height, which grows wild in the Himalayas of northeastern India, ascending to an altitude of 3,500 feet. The thin silky membranous narrow leaves are

64117 to 64122—Continued.

sometimes a foot long, and the lemon-yellow flowers are produced in lax racemes 6 inches or more in length.

For previous introduction see S. P. I. No. 59321.

64121. PIERIS OVALIFOLIA (Wall.) D. Don (*Andromeda ovalifolia* Wall.). Ericaceae.

Although this shrub or small tree may prove of value as a semihardy ornamental because of its racemes of bluish or white flowers, it is used as an insecticide in its native country, India, because of the presence of a poisonous principle in the young leaves and buds. The oblong leathery leaves are 3 to 6 inches long.

For previous introduction see S. P. I. No. 60653.

64122. THEMEDA GIGANTEA (Cav.) Hack. Poaceae.

A tall erect stout grass, 8 to 16 feet high, with very narrow leaves 4 to 8 feet long and oblong panicles 1 to 3 feet in length. It is native to eastern Asia and is closely related to the kangaroo grass of Australia, which is considered a valuable fodder.

64123 to 64125. *Gossypium* spp. Malvaceae.

From Natal, Brazil. Seeds presented by E. C. Green. Received May 19, 1925.

Selections of Brazilian cotton, probably hybrids of *Gossypium peruvianum* and *G. vitifolium*.

64123. Gossypium sp.

A.

64124. Gossypium sp.

B.

64125. Gossypium sp.

C.

64126 to 64152.

From Chihli, China. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received May, 1925. Notes by Mr. Dorsett.

64126 and 64127. FAGOPYRUM VULGARE Hill (*F. esculentum* Moench). Polygonaceae. Buckwheat.

64123. No. 2552. Miyunhsien. March 26, 1925.

64127. No. 2567. Kaoliying. March 27, 1925.

64128. HORDEUM sp. Poaceae. Barley.

No. 2547. Niulan Mountain. March 26, 1925. *Wang ta mai* (king barley).

64129. HORDEUM sp. Poaceae. Barley.

No. 2561. Kaoliying. March 27, 1925. *Wang ta mai* (king barley).

64130 to 64133. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Fabaceae. Adzuki bean.

64130. No. 2545. Niulan Mountain. March 26, 1925. A small black bean.

64126 to 64152—Continued.

64131. No. 2559. Miyunhsien. March 26, 1925. A small gray variety.

64132. No. 2563. Kaoliying. March 27, 1925. A small white bean.

64133. No. 2564. Kaoliying. March 27, 1925. A small red variety.

64134 to 64137. PHASEOLUS AUREUS Roxb. Fabaceae. Mung bean.

64134. No. 2543. Niulan Mountain. March 26, 1925. This is a green variety.

64135. No. 2557. Miyunhsien. March 26, 1925. A green bean.

64136. No. 2565. Kaoliying. March 27, 1925. A hairy variety.

64137. No. 2571. Niulan Mountain. March 31, 1925. These beans are of a dull grayish brown and were separated from the green mung beans sent in under No. 2543 [S. P. I. No. 64134].

64138. PISUM SATIVUM L. Fabaceae. Pea.

No. 2340. Paotingfu. March 10, 1925. A white field pea.

64139 to 64145. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

64139. No. 2544. Niulan Mountain. March 26, 1925. A black soy bean.

64140. No. 2546. Niulan Mountain. March 26, 1925. A green variety.

64141. No. 2548. Niulan Mountain. March 26, 1925. Yellow soy bean.

64142. No. 2549. Niulan Mountain. March 26, 1925. A small, green soy bean.

64143. No. 2556. Miyunhsien. March 26, 1925. Yellow soy bean.

64144. No. 2560. Miyunhsien. March 26, 1925. Black variety.

64145. No. 2566. Kaoliying. March 27, 1925. Yellow soy bean.

64146 to 64149. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

64146. No. 2542. Niulan Mountain. March 26, 1925. A spring wheat.

64147. No. 2550. Niulan Mountain. March 26, 1925. Winter wheat.

64148. No. 2553. Miyunhsien. March 26, 1925. Winter wheat.

64149. No. 2554. Miyunhsien. March 26, 1925. Spring wheat.

64150. VICIA FABA L. Fabaceae. Broad bean.

No. 2558. Miyunhsien. March 26, 1925. *Ts'an tou* (silkworm bean) or English horse bean.

64151. VIGNA SINENSIS (Torner) Savi. Fabaceae. Cowpea.

No. 2551. Miyunhsien. March 26, 1925. A mottled cowpea.

64152. ZEA MAYS L. Poaceae. Corn.

No. 2562. Kaoliying. March 27, 1925. Seeds of a white corn.

64153 and 64154.

From Satyagrahashram, Sabarmati, India. Seeds presented by Magaulal K. Gandhi, at the request of Richard B. Gregg, Ahmedabad, Sabarmati. Received June 3, 1925.

64153. *CUCUMIS SATIVUS* L. Cucurbitaceae. Cucumber.

A long bulky cucumber which has flesh and flavor resembling a muskmelon, though not so sweet. (Gandhi.)

64154. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushaw.

Sugar pumpkin (Indian name "Sakkaekola"). A prolific variety of small pumpkin, round in shape and of a beautiful reddish color, resembling a half-ripe tomato. As the name suggests, the flavor is sweet. It is an earlier bearer than any of the other varieties and is a good keeper if stored in a dry place. (Gandhi.)

64155 and 64156.

From Mexico. Seeds collected by C. R. Orcutt. Received May 21, 1925.

64155. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

From the market at San Luis Potosi. (Orcutt.)

64156. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

No. 1749. 1924. Alvarez. *Takil*. (Orcutt.)

64157. *GOSSYPIUM* sp. Malvaceae. Cotton.

From Rabat, Morocco. Seeds presented by Em. Miège, chief, Service de l'Expérimentation Agricole au Maroc, through David Fairchild, agricultural explorer, Bureau of Plant Industry. Received May 29, 1925.

A seedling of the native cotton known as *Sar-sar*; the latter is described under S. P. I. Nos. 64002 and 64003.

64158 and 64159.

From China. Plants collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received May 20, 1925.

64158. *LIRIOPE GRAMINIFOLIA* (L.) Baker (*L. spicata* Lour.). Liliaceae.

No. 121. Hong Kong Botanic Gardens. March 4, 1925. *Kaai t'sin t'so*. A dark-green variety which is of low habit and spreads rapidly by rhizomes. It is said to produce fruits only very sparingly. Used extensively in the place of grass in situations where the dense shade, shallow rooting of some trees, or other conditions prevent the growth of a satisfactory grass sod. (McClure.)

64159. *OPHIPOGON* sp. Liliaceae.

A tropical, grasslike plant with small white or bluish flowers; collected in southeastern China.

64160 and 64161. *LOLIUM TEMULENTUM* L. Poaceae. Darnel.

From Ariana, near Tunis, Tunisia, Africa. Seeds presented by the chief of the Botanical Service. Received March 9, 1925. An annual European grass.

64160 and 64161—Continued.

64160. Received as *Lolium canadense*.

64161. Received as *Lolium brevicaulis*.

64162 and 64163. *MUSA PARADISIACA SAPIENTUM* (L.) Kuntze. Musaceae. Banana.

From Santiago de las Vegas, Cuba. Suckers presented by Gonzalo Fortun, director, Estación Experimental Agronomica. Received June 3, 1925.

64162. *Enano*. A dwarf banana which may be different from the Cavendish variety now being grown in Florida.

64163. *Congo*. This is similar to the *Enano* variety, but it appears to be immune to the Panama disease. It bears enormous bunches of fruits which sometimes weigh more than 100 pounds. (Fortun.)

64164 and 64165. *LANDOLPHIA* spp. Apocynaceae.

From Kisantu, Belgian Congo, Africa. Seeds presented by Frère J. Gillet. Received June 5, 1925.

64164. *LANDOLPHIA KLAINII* Pierre.

A tropical African climbing shrub which is said (Flora of Tropical Africa, vol. 4, sect. 1) to be the principal rubber-producing plant in the Gabon district, French Equatorial Africa. The oblong leathery leaves are glossy green, and the hard globose fruits are 6 to 10 inches in diameter.

For previous introduction see S. P. I. No. 63737.

64165. *LANDOLPHIA OWARIENSIS* Beauv.

This is described (Wildeman and Gentil, *Lianes Caoutchoutifères du Congo*, p. 53) as an enormous tropical creeper, found throughout the Belgian Congo, which attains a length of over 300 feet and a stem diameter of about 15 inches. The wedge-shaped elliptic leaves are 2 to 4 inches long. While the rubber-producing latex obtained from this species is often of good quality, frequently individual specimens yield latex which is practically useless.

For previous introduction see S. P. I. No. 58517.

64166 to 64183.

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received June 3, 1925.

64166. *ABROMA AUGUSTA* L. f. Sterculiaceae.

A large spreading shrub, native to tropical Asia, with heart-shaped soft-hairy leaves and dingy-purple flowers. In India a fiber is extracted from the twigs which is valued for its beauty, softness, and durability.

64167. *ACER OSMASTONI* Gamble. Aceraceae. Maple.

A large Himalayan maple, described (Kew, *Bulletin of Miscellaneous Information*, 1908, p. 446) as a tree up to 100 feet tall, growing wild in Sikkim, India, at an altitude of about 7,000 feet. The leaves, 1 to 3 lobed, are papery and about 5 inches long.

For previous introduction see S. P. I. No. 61742.

64166 to 64183—Continued.

64168. ARAUJIA MEGAPOTAMICA Don. Asclepiadaceae.

A shrubby evergreen climbing plant, with opposite leaves and whitish or rosy bell-shaped flowers. It is native to Brazil and can be grown under glass or in the open in summer.

64169. ARCTOTIS STOECHADIFOLIA Bergius. Asteraceae.

A bushy composite from the Cape of Good Hope, which according to Harvey and Sonder (*Flora Capensis*, vol. 3, p. 454) has long hairy branches with whitish hairy leaves and large showy orange-colored flower heads.

64170. ARGYROLOBIUM LINNAEANUM Walp. Fabaceae.

A perennial caespitose half-woody leguminous plant, usually 4 to 8 inches high, with trifoliate leaves and terminal yellow flowers. It is native to the Mediterranean regions.

64171 to 64173. CITRUS MEDICA L. Rutaceae. Citron.

64171. Received as *Citrus lumia*, which is now referred to as *C. medica*.

64172. *Lumus Valentina*.

64173. Var. *Perettone*.

64174. CROTALARIA TETRAGONA Roxb. Fabaceae.

An erect stiff shrub, often 6 feet in height, which grows wild in the Himalayas of northeastern India, ascending to an altitude of 3,500 feet. The thin silky membranous narrow leaves are sometimes a foot long, and the lemon-yellow flowers are produced in lax racemes 6 inches or more in length.

For previous introduction see S. P. I. No. 59321.

64175. ECCREMOCARPUS SCABER Ruiz and Pav. Bignoniaceae.

A Chilean relative of the Trumpet creeper, which is a shrubby vine with crimson and yellow flowers. It has bipinnate leaves and becomes 10 feet or more in length.

64176. EUCALYPTUS ALGERIENSIS Trabut. Myrtaceae.

A hybrid between *Eucalyptus rostrata* and *E. rudis* which has become naturalized in North Africa and now covers considerable areas of the hills around Algeria. It differs from *E. rudis* by its smooth trunk and its small flowers with the hemispherical operculum not beaked, and from *E. rostrata* by its buds, which are white like those of *E. rudis*. *Eucalyptus rudis* flowers in the spring, while *E. rostrata* flowers in July and August. (Note by David Fairchild under S. P. I. No. 62666.)

64177. MEIBOMIA GYROIDES (DC.) Kuntze (*Desmodium gyroides* DC.). Fabaceae.

A shrubby leguminous plant, 8 to 10 feet high, from the warmer parts of the central and eastern Himalayas. It has hairy leaves and terminal clusters of red flowers.

For previous introduction see S. P. I. No. 61613.

64166 to 64183—Continued.

64178. MEIBOMIA PULCHELLA (L.) Kuntze (*Desmodium pulchellum* Benth.). Fabaceae.

An erect hairy shrub with trifoliate leaves and spikelike clusters of red flowers. It is native to southeastern Asia and is introduced chiefly for testing as a forage plant.

64179. NEPTUNIA OLERACEA Lour. Mimosaceae.

According to Ridley (*Flora of the Malay Peninsula*, vol. 1, p. 653), this floating leguminous plant, with white fleshy stems, is used as a potherb. The bipinnate leaves are 3 inches long, and the flower heads are yellow.

64180. ONCOCALAMUS sp. Phoenicaceae. Palm.

The members of this tropical African genus are climbing palms with long stems and pinnate leaves.

64181. PANCRACTIUM COLLINUM Coss. and Dur. Amaryllidaceae.

A bulbous plant from Algeria, described by Baker (*Handbook of Amaryllidaceae*, p. 118) as having five or six linear leaves about 2 feet long and greenish white fragrant flowers in 5 to 10 flowered umbels.

64182. VERNONIA VOLKAMERIAEFOLIA DC. Asteraceae.

A small stout tree with large leaves, about a foot in length, and very numerous whitish flower heads in terminal panicles. The tree is native in the mountainous districts of northeastern India.

64183. ZANTHOXYLUM ALATUM PLANISPINUM (Sieb. and Zucc.) Rehd. and Wils. Rutaceae.

According to the *Revue Horticole* (vol. 85, p. 17), this Japanese shrub is 7 to 13 feet high, much branched at the base, sometimes with a short trunk. The dark-brown spreading branches, drooping a little at the tips, bear stout straight spines in pairs and evergreen pinnate leaves, dark green above and paler beneath. The small red fleshy fruits are persistent and emit a very agreeable aromatic odor when bruised. The shrub should be more extensively planted as an ornamental; in addition it makes a very formidable hedge. Propagation is by seeds or cuttings.

64184 to 64195.

From northern Africa. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 4, 1925. Notes by Doctor Fairchild.

64184. ANCHUSA UNDULATA L. Boraginaceae.

April 27, 1925. Var. *lamprocarpa*. Seeds of what appears to be one of R. Maire's new subspecies which is native to Morocco. As I saw it on the sand land, about 14 miles north of Kenitra, Morocco, it appeared to be a very attractive flowering perennial which should be introduced into our gardens and improved through selection. The dark-purple flowers contrast strikingly with the red-purple of the stiff inflorescence, which has a great deal of style to it.

64184 to 64195—Continued.

64185. CAPSICUM ANNUUM L. Solanaceae.
Red pepper.

Sidi Bel Abbes, Algeria. March 12, 1925. Seeds purchased in the market. I have not seen this particular variety of the sweet red pepper of Spain since I was in Murcia, Spain, 25 years ago. The Spanish grind it up into a very fine powder and flavor their soups and other dishes. It is one of the finest flavored varieties and is not the least bit sharp; a large spoonful of the ground fruit can be put into a plate of soup or stewed with chicken. I believe it is also used fresh in the making of what we in America call "pimento."

64186. CERINTHE GYMNANDRA Gasp. Boraginaceae.

April 27, 1925. There are several species of *Cerinth* scattered along the coast of northern Africa which differ in the size and color of the flowers and in the tint of black-purple which characterizes their large floral bracts. If used in a border properly it might be a most effective plant, furnishing a dark-purple background for all sorts of other flowering plants. These seeds were gathered in the valley back of the old town of Ouezzan, Morocco, which is about 30 miles from the Riff frontier.

64187. DIPCADY SEROTINUM Medic. Liliaceae.

Forest of Mamora, near Rabat, Morocco. April 23, 1925. Seeds of a bulbous plant growing about a foot high and producing a slender spike of salmon-colored flowers which are shaped like those of a hyacinth. It forms patches in the deep sandy soil of the forest of Mamora.

64188. ECBALLIUM ELATERIUM (L.) A. Rich. Cucurbitaceae.

From a roadside near Sidi Bel Abbes, Algeria. March 24, 1925.

Seeds of the "squirting cucumber," a perennial trailing vine, native to the Mediterranean countries. It is cultivated as an annual in gardens of the Temperate Zone and is a curiosity because of its peculiar habit of violently ejecting its seeds and juice. A drug, elaterium, is obtained from the juice. In flower and foliage characters the plant closely resembles the cucumber, and the fruit is like a small greenish elliptical gourd covered with soft greenish prickles.

64189. HELIANTHEMUM AEGYPTIACUM Mill. Cistaceae.

Forest of Boulhout, near Rabat, Morocco. April 23, 1925. The superb yellow color of this small species attracted my attention at once, and although the flowers last only a short time, they have so delicate a charm about them that I could not resist sending in seeds in order that an attempt should be made to naturalize the species in the oak forests and on the sandy soils of southern California. This variety appears to be common in Algeria and Tunisia, as well as here in Morocco.

64190. IRIS ALATA Poir. Iridaceae.

Seeds of a low-growing species which grows wild in the wet gumbo soils about 66 miles north of Kenitra, Morocco. It is a purple-flowered species, and R. Maire

64184 to 64195—Continued.

tells me it is well worth growing in our borders for its large flowers, which in Algiers appear during October and November. It produces numerous tubers on its roots.

64191. LEUCOJUM AUTUMNALE L. Amaryllidaceae.

April 17, 1925. Seeds collected in the forest of Mamora, about 9 miles from Rabat, Morocco.

An autumn-blooming bulbous plant, sometimes called the "autumn snowflake." The threadlike leaves usually appear after the flowers; these are white, tinged with red, and are borne on a slender scape 3 to 9 inches long. Native to the Mediterranean countries and best suited for growing in sandy soil in the southern half of the United States.

64192. MYOPORUM sp. Myoporaceae.

May 3, 1925. Seeds presented by the Jardin d'Essais, Rabat, Morocco, where there are many hundreds of yards of hedges of this variety. It was introduced into Morocco and has now become the principal hedge plant and windbreak of the whole coast. It is one of the best plants I have ever seen for hedges down near the sea, but not right on the very edge of the surf. It stands clipping admirably well and is an evergreen of a pleasing dark-green color. It grows with the greatest ease from cuttings, makes a very dense windbreak, and will stand several degrees of frost without injury. It is reported that grasshoppers do not care for this species.

64193. ORNITHOGALUM UNIFOLIUM (L.) Ker. Liliaceae.

Bulbs from the forest of Mamora, near Rabat, Morocco. April 21, 1925.

A Portuguese relative of the star of Bethlehem which is described (Curtis's Botanical Magazine, pl. 935) as a little bulbous plant a foot or less high, with but one leaf, which is narrow, concave, and terminated by a long recurved point. The three to five white flowers are borne on a scape shorter than the leaf.

64194. RHUS PENTAPHYLLA (Jacq.) Desf. Anacardiaceae.

Boulhout, Morocco. April 22, 1925. Seeds of a beautiful shrub at present covered with berries which are just beginning to ripen. The fruits become intense red later in the season, and the bark is a source of tannin.

64195. TRADESCANTIA sp. Commelinaceae.

The spiderworts are perennial herbs, all native to North America and cultivated in the greenhouse or out of doors, according to their hardiness, for the sake of their bright flowers, which are blue, red, or white, and attractive foliage. Cuttings of a North African species.

64196 to 64198.

From Avondale, Auckland, New Zealand. Seeds presented by H. R. Wright. Received June 5, 1925.

64196. MERYTA SINCLAIRII (Hook. f.) Seem. Araliaceae.

A small, very attractive New Zealand tree, described by Laing and Blackwell (Plants of New Zealand, p. 312) as about 20 feet high, with shining-green

64196 to 64198—Continued.

leaves 9 to 20 inches long, and erect panicles of greenish yellow flowers. It probably is adapted for growing only in Florida and California.

64197. *PHORMIUM TENAX* Forst. Liliaceae. New Zealand flax.

Var. *atropurpureum*. A horticultural variety with reddish purple foliage. The plant has rigid sword-shaped leaves 6 feet or more in length and a flower stalk sometimes 15 feet high, which bears numerous dull-red flowers. Adapted for growing outdoors in Florida and California and as a tub plant farther north.

64198. *VITEX LUCENS* Kirk. Verbenaceae. Puriri.

A handsome New Zealand evergreen tree, described by Laing and Blackwell (Plants of New Zealand, p. 350) as being about 60 feet in height, with bright glossy green leaves composed of three to five leaflets. The pink or red two-lipped flowers, produced more or less continuously throughout the year, are in axillary clusters. The wood is very strong and durable and is not injured by dampness. The roots do not penetrate deeply into the ground, so the tree is easily blown over by heavy winds. The tree will probably not endure much frost.

64199 to 64205. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

From Potchefstroom, Transvaal, Union of South Africa. Seeds presented by Jacq. P. F. Sellschop, School of Agriculture. Received June 11, 1925.

Locally grown strains.

64199. *Bird Proof*.

64200. *Brown Sudan Durra*.

64201. *Ordinary Red*.

64202. *Short Red*.

64203. *White Coligny*.

64204. *White Sudan Durra*.

64205. *Yanzu*.

64206. *CARICA PAPAYA* L. Papayaceae. Papaya.

From Santiago de las Vegas, Cuba. Seeds presented by Gonzalo M. Fortun, director, Estación Experimental Agronomica. Received June 10, 1925.

Mamey. This is a fine papaya of medium size, with red flesh of fine flavor. (Fortun.)

64207 to 64209. *COIX LACRYMA-JOBI* MAYUEN (Rom.) Stapf. Poaceae. Adlay.

From Lamo, Bataan, Philippine Islands. Seeds presented by S. Youngberg, acting Director, Bureau of Agriculture, Manila. Received June 23, 1925.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64207 to 64209—Continued.

64207. *Batangas*.

64208. *Bukidnon*.

64209. *Lamao White*.

64210. *POA FLABELLATA* (Lam.) Hook. f. Poaceae. Tussock grass.

From Stanley, Falkland Islands. Seeds presented by James Reid, forest officer. Received June 12, 1925.

For previous introduction and description see S. P. I. No. 63972.

64211 to 64214. *RUBUS* spp. Rosaceae.

From the Philippine Islands. Seeds presented by P. J. Wester. Received June 12, 1925. Notes by Mr. Wester unless otherwise stated.

Collected February 24 to 27, 1925, in the vicinity of Mount Pulog, Benguet Province, Luzon.

64211. *RUBUS ELLIPTICUS* J. E. Smith. Raspberry.

Adouay. February 27. A very stout shrub which, especially when young, is densely covered with long red hairlike spines. The flowers are white, and the deep-yellow, almost orange, very juicy, acid fruits, which ripen earlier on the mountains than in the valley, are collected by the hill tribes and brought to the markets. (J. F. Rock.)

64212. *RUBUS FRAXINIFOLIUS* Poir. Raspberry.

Palanau. A tropical raspberry, described (Brown, Wild Food Plants of the Philippines, p. 63) as a scrambling shrub, with branches 2 to 4 meters long, which is very common in the mountains from Luzon to Mindanao, Philippine Islands. The stems and leaves are armed with sharp spines, and the white flowers are about 2 centimeters across. The bright red berries, 10 to 15 millimeters in diameter, borne in clusters, are fairly juicy and edible, but rather tasteless.

64213. *RUBUS PECTINELLUS* Maxim.

Atibu. A trailing plant with small heart-shaped hairy leaves and weak spines on all parts of the plant. It grows at an altitude of 5,000 feet or more, from northern Luzon to Mindanao. The berries, three-fifths of an inch in diameter, are bright red, juicy, subacid, and of excellent flavor and quality. This is the choicest species of *Rubus* in the Philippines, but it is not in cultivation.

64214. *RUBUS NIVEUS* Thunb. Raspberry.

Below Camp 42, trail to Adouay. *Pilay*. A bramble found in northern Luzon at altitudes ranging from 4,000 to 7,000 feet, with spiny canes up to 7 feet in length. The five to nine foliolate leaves are white beneath. The hemispherical berries are bluish, subacid, and of good flavor. This plant is not cultivated, but is well worthy of domestication.

64215. *ACACIA GIRAFFAE* Willd. Mimosaceae.

From Kirstenbosch, Cape Province, Union of South Africa. Seeds presented by Prof. R. H. Compton, director, National Botanic Gardens. Received June 12, 1925.

The *kameel doorn* of the Transvaal is a valuable timber tree for arid regions in the warm Temperate Zone, according to J. Burt Davy, formerly director of the Burt-Davy seed farms at Burttholm, Vereeniging, Transvaal. The ripe pods are greedily eaten by stock. The tree thrives in sandy soil, attains a large size, and the dark reddish brown wood is used by the natives in making spoons, knife handles, etc.

64216. CARICA PAPAYA L. Papayaceae.
Papaya.

From Santiago de las Vegas, Cuba. Seeds presented by Gonzalo M. Fortun, director, Estación Experimental Agronomica. Received June 13, 1925.

One of the larger papaya types, sent to me by Mario Escobar y Ferrer, of Colonia "Bellamar" Jagueyal. (Fortun.)

64217. MEIBOMIA LEOCARPA (Spreng.)
Kuntze (*Desmodium leiocarpum* Don.). Fabaceae.

From Buenos Aires, Argentina. Seeds presented by Carlos D. Girola, Museo Agrícola de la Sociedad Rural Argentina. Received June 12, 1925.

In northern Argentina and southern Brazil this native leguminous plant is eaten readily by stock, according to Señor Girola (Boletín del Ministerio de Agricultura, Buenos Aires, vol. 25, p. 375). The plant becomes 6 feet or more in height, more or less branched, with trifoliate leaves 2 inches or more long. For use as forage the plants are cut at the level of the ground, just before flowering; this practice causes the plants to renew their growth most rapidly.

64218. PANICUM LAEVIFOLIUM Hack.
Poaceae. Grass.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by H. A. Mellé, Department of Agriculture, through C. V. Piper, Bureau of Plant Industry. Received June 17, 1925.

Sweet grass is an annual, widely distributed over the Transvaal and the Orange Free State. Owing to its rapid growth in cultivated lands, it is regarded as a troublesome weed. It is a very rapid grower, heading within six weeks after the seed has germinated, and has a remarkably heavy yield. The mown grass, if properly cured, makes excellent hay of the best palatability, which during the winter months is eaten greedily by stock. (Mellé.)

64219 and 64220. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Fortuna, Porto Rico. Cuttings presented by J. Matz, through E. W. Brandes, Bureau of Plant Industry. Received June 24, 1925.

64219. *B. 6032.*

64220. *B. 6308.*

64221 and 64222.

From Chingkangsan, Hupeh, China. Seeds presented by Rev. A. S. Cooper. Received June 15, 1925.

64221. *PYRACANTHA* sp. Malaceae.

Firethorn.

The firethorns are ornamental shrubs grown chiefly for their bright-red fruits. This Chinese species is as yet unidentified.

64221 and 64222—Continued.

64222. LILIUM LEUCANTHUM CHLORASTER (Baker) Wilson. Liliaceae. Lily.

An unidentified Chinese lily. To be grown to ascertain its horticultural value.

64223 to 64230. PYRUS spp. Malaceae.
Pear.

The following seedlings, grown at the Plant Introduction Garden, Chico, Calif., are from hybrids between one of the *Pyrus communis* types and a Chinese pear, raised by the late Walter Van Fleet in 1907 and hitherto carried collectively at the Chico garden under the S. P. I. No. 28497. Numbered in April, 1925, for convenience in distribution.

64223. PYRUS sp.

A medium-sized pear, $3\frac{1}{2}$ inches long and $2\frac{3}{4}$ inches wide, which is obovate-acute-pyriform, some specimens tending to oblong-pyriform. The thick, tough skin is light yellow overlain with bronze or light pink on the exposed surface and is slightly roughened by numerous large conspicuous russet dots. The flesh is white, fairly juicy and firm, sweet but insipid. The tree is very prolific and ripens its fruits at Chico from the middle of August to the middle of September. (Row 42, tree 3, and row 44, tree 3.)

64224. PYRUS sp.

Fruits medium to large, averaging 3 inches long and $2\frac{3}{4}$ inches wide; acute-obovate-pyriform in shape with unequal sides. When ripe the skin is lemon yellow with a smooth waxy surface and numerous russet dots. The flesh is quite firm and juicy, slightly sweet, but lacking in flavor. Possibly of use for canning purposes. The fruits ripen at Chico from late in September to late in October. Row 26, tree 4, old test orchard.)

64225. PYRUS sp.

A medium-sized pear, yellowish green and rather rough. The flesh is light colored, rather coarse in texture, but juicy, sweet, and of fair quality. The tree is small and rather slow growing, bearing an average crop and showing no evidence of disease. Evidently a fair winter pear. The fruits ripen at Chico about the middle of August. (Row 26, tree 8, old test orchard.)

64226. PYRUS sp.

A medium-sized drooping vigorous tree, bearing an average crop of medium-sized pears. The fruits are greenish yellow and smooth. The flesh is juicy and slightly acid with a trace of astringency. This has a possible value as a late winter pear. (Row 26, tree 11, old test orchard.)

64227. PYRUS sp.

Fruits large and coarse, averaging 12 to 16 ounces in weight, with greenish yellow skin, slightly colored where exposed to the sun. The flesh is juicy and fairly sweet, but lacking in flavor. The tree is vigorous, free from blight, and bears a heavy crop of fruit which ripens late in September or early in October at Chico, Calif. (Row 28, tree 8, old test orchard.)

64228. PYRUS sp.

A very vigorous tree showing as yet no evidence of blight and bearing a heavy

64223 to 64230—Continued.

crop of large obovate pears averaging 8 to 10 ounces in weight. The flesh is coarse, granular, juicy, and lacking in flavor. (Row 28, tree 10, old test orchard.)

64229. *PYRUS* sp.

Fruits medium sized, turbinate, averaging $2\frac{1}{2}$ inches long and $2\frac{1}{4}$ inches wide, with a fairly smooth surface, slightly roughened in spots by russet patches. The flesh is white, fairly juicy and firm, sweet, with a pleasant flavor. A satisfactory dessert pear which ripens early in September. (Row 34, tree 4, old test orchard.)

64230. *PYRUS* sp.

A pear averaging 7 or 8 ounces in weight, obovate in form, greenish yellow, and heavily dotted. The flesh is very coarse and gritty and would probably be of value only for cooking purposes. The tree is spreading, open, and vigorous and as yet shows no evidence of disease. Fruits ripen in October at Chico, Calif. (Row 27, tree 9, old test orchard.)

64231 to 64243.

From Leningrad, Russia. Seeds presented by A. Kol, chief of information and introduction, Institute of Applied Botany. Received June 12, 1925.

64231. *ABIES SIBIRICA* NEPHROLEPIS Trautv. Pinaceae.

A tall Siberian fir with a trunk 2 to 4 feet in diameter, dark yellow-green crowded leaves, and slender brownish yellow cones. This is said to be a very hardy fir, although the young growth is often injured by late frosts.

64232. *ACANTHOPANAX SENTICOSUM* (Rupr.) Harms. Araliaceae.

A very spiny shrub bearing palmate-divided leaves and having at the end of its long shoots small umbels of black berries. Grows generally in dense shade, and may prove useful as a park or garden shrub or as an undergrowth beneath tall trees. (Frank N. Meyer, note under S. P. I. No. 20309.)

64233. *ACER TEGMENTOSUM* Maxim. Aceraceae. Maple.

A small hardy Manchurian maple, very similar to *Acer rufinerve*. The bright-green three-lobed leaves are about 3 inches long and slightly less in width.

64234. *BETULA SCHMIDTII* Regel. Betulaceae. Birch.

A Japanese birch, described by C. S. Sargent (Plantae Wilsonianae, vol. 2, pt. 3, pp. 475 and 476) as a large tree with thick branches, found only in the Province of Shimotsuke, Hondo, Japan. It grows to be 65 feet tall, with a trunk $3\frac{1}{2}$ to $7\frac{1}{2}$ feet thick, and black bark which falls off in thick, rather small plates. The finely serrate leaves are short stemmed, and the catkins are narrow, stiff, and erect.

64235. *FRAXINUS MANDSHURICA* Rupr. Oleaceae. Ash.

An Asiatic ash, described by Bean (Trees and Shrubs Hardy in the British Isles, vol. 1, p. 569) as a handsome tree

64231 to 64243—Continued.

often 100 feet in height, native to Japan and the adjacent parts of the Asiatic mainland. The leaves are up to 15 inches in length, with dull-green bristly leaflets. The tree is said to be susceptible to late spring frosts.

64236. *LARIX DAHURICA* Turcz. Pinaceae. Larch.

A larch from Manchuria and south-eastern Siberia, sometimes as much as 70 feet in height. In many sections it is superior to the common European larch as a park tree. In the spring the young cones are very attractive because of their bright pink color.

64237. *MAACKIA AMURENSIS* Rupr. Fabaceae.

A small tree, native to eastern Asia, with orange-brown bark, dull-green compound leaves, and short erect clusters of small yellowish white flowers.

64238. *PICEA JEZOENSIS* (Sieb. and Zucc.) Carr. Pinaceae.

A handsome hardy spruce, native to eastern Asia, which becomes about 70 feet high, with low-spreading branches and a dense pyramidal habit. The leaves are silvery above and rich green beneath, and the staminate flowers are orange-crimson.

64239. *PRUNUS MAACKII* Rupr. Amygdalaceae. Cherry.

A Manchurian bird cherry, 40 feet or more in height, with very smooth brownish yellow bark which peels off like that of a birch. The leaves are pointed and very finely toothed, and the white flowers are in short racemes borne on the previous season's wood.

64240. *PRUNUS SALICINA* Lindl. Amygdalaceae. Plum.

Var. *koreana*. A horticultural form of the Japanese plum which will be grown to ascertain its horticultural value.

64241. *PYRUS USSURIENSIS* Maxim. Malaceae. Pear.

A hardy Chinese pear, some strains of which have shown unusual resistance to the pear blight. Introduced for horticulturists engaged in pear-breeding experiments.

64242. *SCHIZANDRA CHINENSIS* (Turcz.) Baill. Magnoliaceae.

A trailing vine of small growth, found among boulders and rocks. The leaves are not unlike those of *Actinidia kolumbika*, and the sour red berries are in small clusters. Might be of use as a small porch and trellis vine for the colder sections of the United States. (Frank N. Meyer, note under S. P. I. No. 36755.)

64243. *TILIA AMURENSIS* Rupr. Tiliaceae.

A Manchurian linden which according to Schneider (Illustriertes Handbuch der Laubholzkunde, vol. 2, p. 374) has a habit similar to that of the small-leaved linden (*Tilia cordata* Mill.), with ovate papery long-pointed leaves which are dark green above and blue-green below. It is distinguished from the small-leaved linden by its coarser dentations.

64244. LEUCOJUM AUTUMNALE L. Amarillidaceae.

From Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 4, 1925.

April 17, 1925. Collected in the forest of Mamora, about 9 miles from Rabat. (Fairchild.)

For introduction of seeds and description, see S. P. I. No. 64191.

64245 to 64272.

From Tibet, China. Seeds collected by F. Kingdon Ward and presented by Maj. Lionel de Rothschild, London, England. Received May 22, 1925. Notes by Captain Ward.

Collected in the Tsangpo Valley during the spring of 1924.

64245. ACER sp. Aceraceae. Maple.

No. 5832. A tree 20 to 30 feet high, growing in a mixed forest.

64246 to 64249. BERBERIS spp. Berberidaceae. Barberry.**64246. BERBERIS sp.**

No. 5773. A bush, 6 feet in height, with glaucous foliage which turns purple in the autumn. The flowers are yellow and the berries coral red.

64247. BERBERIS sp.

No. 5936. This bush, 6 feet in height, has scarlet foliage during the autumn. The bright-yellow flowers are very numerous, and the berries are scarlet.

64248. BERBERIS sp.

No. 5962.

64249. BERBERIS sp.

No. 6233. A small shrub, 1 to 1½ feet in height, growing on sunny grassy slopes in peaty soil among dwarf rhododendrons. The pendent berries are coral red.

64250. CARAGANA sp. Fabaceae.

No. 6267. A bush, 2 to 3 feet high, growing in alpine regions on open slopes facing the south. The flowers are pink (?).

64251. CASSIOPE sp. Ericaceae.

Nos. 5663 and 5770. Grows in peaty soil on alpine meadows.

64252. CLEMATIS sp. Ranunculaceae.

No. 6290.

64253. COTONEASTER sp. Malaceae.

No. 6400.

64254. ENKIANTHUS sp. Ericaceae.

No. 6254. A shrub, 6 to 10 feet high, found in thickets and on the margins of forests. The leaves are scarlet and orange in the autumn; the flowers were not seen.

64255. ILEX sp. Aquifoliaceae. Holly.

No. 6249. An evergreen undershrub about 1 foot high, with scarlet berries resembling those of the holly. Grows among dense shrub growth and boulders in peaty soil.

64245 to 64272—Continued.**64256. IRIS sp. Iridaceae.**

No. 5783.

64257. IRIS sp. Iridaceae.**64258 to 64260. LILIUM spp. Liliaceae. Lily.****64258. LILIUM sp.**

No. 5809. A lily, with maroon flowers, which grows 3 to 6 inches high, in peaty meadows, among dwarf rhododendrons.

64259. LILIUM sp.

No. 5893. Plant 3 feet high, found on sheltered banks among shrubs on granite rock and in loamy soil, at an altitude of 13,000 feet.

64260. LILIUM sp.

No. 6272.

64261 to 64263. LONICERA spp. Caprifoliaceae. Honeysuckle.**64261. LONICERA sp.**

No. 5775. A bush 6 to 8 feet high found in forests. It bears white or pale-cream pendent flowers and handsome cherry-red translucent berries which are good to eat.

64262. LONICERA sp.

No. 5822. A shrub or small tree up to 20 feet high, found in heavily shaded forests. The leaves are glossy and the flowers maroon colored. The pendent fruits, scarlet and the size of small cherries, are produced on pedicels which are 2 inches in length.

64263. LONICERA sp.

No. 5918. A dwarf shrub, 1 foot high, with yellow flowers and blue-black stems and berries. It grows in peaty soil among dwarf rhododendrons on alpine meadows.

64264. NOMOCHARIS sp. Liliaceae.

No. 6232. A plant 8 to 12 inches high, found on alpine meadows in loam and sand. The flowers were not seen.

64265. ONOSMA sp. Boraginaceae.

No. 5965. A plant having decumbent stems and bright-blue flowers which appear from July to September. It grows in pure sand, gravel, or grit in open, dry, sunny situations and should make a good rock plant.

64266. POPULUS sp. Salicaceae. Poplar.

No. 5675. A golden poplar tree 100 feet high, found in villages by the river.

64267. RHEUM sp. Polygonaceae.

No. 5805. Plant 6 feet high growing among alpine granite boulders at an altitude of 15,000 feet.

64268. ROSA sp. Rosaceae. Rose.

No. 5834. A bush, 6 to 12 feet high, or scrambling from 15 to 20 feet, found in thickets, forests, hedges, etc. The flowers are rose, hips scarlet and flask-shaped.

64269 to 64271. SALIX spp. Salicaceae. Willow.**64269. SALIX sp.**

No. 5755. A shrub 10 to 15 feet high, with large bright-colored staminate and pistillate catkins. Grows in open situations.

64245 to 64272—Continued.

64270. *SALIX* sp.

No. 5870. This dwarf willow, bearing large leaves and erect spikes 3 inches in length, is creeping in habit.

64271. *SALIX* sp.

No. 6239. A shrub a foot or 2 high, with erect spikes about 3 inches long. Grows on sheltered gravelly slopes and in marshy places.

64272. *THALICTRUM* sp. Ranunculaceae.

No. 5899. A plant 6 to 10 feet high, with small leaves and large mauve flowers. Resembles *Thalictrum diptercarpum*, but probably the leaves are smaller and the flowers larger. Grows in loamy soil in shady places.

64273 to 64285.

From Chihli Province, China. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received May 27, 1925. Notes by Mr. Dorsett.

The following seeds were collected at the Botanical Garden, Peking, April 10, 1925.

64273. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Poaceae.
Six-rowed barley.

No. 2658. *Feng Tien hei ta mai* (black barley of Mukden). This variety is said to have originally come from Mukden, Manchuria.

64274 to 64276. *HORDEUM VULGARE PAL-LIDUM* Seringe. Poaceae.
Six-rowed barley.

64274. No. 2649. *Wang ta mai* (king barley). This variety appears to be the most commonly grown barley.

64275. No. 2650. *Honan wang ta mai* (king barley of Honan), said to have originally come from Honan Province.

64276. No. 2659. *Eo Kuo ta mai* (Russian barley), originally from Russia.

64277 and 64278. *PHASEOLUS CALCARATUS* Roxb. Fabaceae. Rice bean.

64277. No. 2652. *Pai ch'ang hsiao tou* (white long small bean). This variety is said to be a product of Chihli Province.

64278. No. 2660. *Tsung so ch'ang hsiao tou* (long brown small bean). These were selected from the small white bean, No. 2652 [S. P. I. No. 64277], and may prove to be a different strain.

64279 to 64283. *PISUM SATIVUM* L. Fabaceae. Pea.

64279. No. 2653. *Eo Kuo pai wan tou* (white field pea of Russia), said to have come originally from Russia.

64280. No. 2654. *Szechwan pai wan tou* (white field pea of Szechwan). A product of Szechwan.

64281. No. 2655. *Feng Tien pai wan tou* (white field pea of Mukden), said to have come originally from Mukden, Manchuria.

64282. No. 2656. *Te Kuo lu wan tou* (green field pea of Germany). Originally from Germany.

64273 to 64285—Continued.

64283. No. 2657. *Szechwan lu wan tou* (green field pea of Szechwan), originally from Szechwan Province.

64284. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

No. 2651. *Tsung se tou* (brown soy bean) said to be a product of Chihli Province.

64285. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 2648. *Pai mai tze* (white winter wheat). Originally from Chinghsien.

64286. *DAHLIA VARIABILIS* (Willd.) Desf. Asteraceae.

From Lima, Peru. Tuber collected by Wilson Popenoe, agricultural explorer, Bureau of Plant Industry. Received February 28, 1925. Numbered April, 1925.

This is considered to be the parent of the great majority of cultivated dahlia varieties, and is, as the name indicates, very variable in both vegetative and floral characters.

64287 and 64288.

From Rio de Janeiro, Brazil. Seeds presented by Dr. Pacheco Leão, director, Botanic Garden. Received June 29, 1925.

64287. *HOLCUS SORGHUM VERTICILLIFLORUS* (Steud.) Hitchc. Poaceae. Tabucki grass.

Locally grown seeds.

For previous introduction see S. P. I. No. 61674.

64288. *MEIBOMIA DISCOLOR* (Vogel) Kuntze (*Desmodium discolor* Vogel). Fabaceae.

A shrubby erect hairy plant from southern Brazil, with oval membranous leaflets and large panicles of light-blue flowers.

64289 to 64309.

From Tiflis, Georgia, Caucasus. Seeds presented by the director of the Botanic Garden. Received June 30, 1925.

64289. *ABIES SPECTABILIS* Lambert (*A. webbiana* Lindl.). Pinaceae. Fir.

An Asiatic fir, which, in its native home in the Himalayas, becomes at times 150 feet in height, according to Bean (*Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 128). The dark-green leaves are arranged in two opposite series so as to leave a V-shaped opening along the top; the individual leaves are 1 to 2 inches long. The cones, about 5 inches long, are violet-purple at first, becoming brown. It is probable that this fir will prove hardy only in the southern United States.

64290. *ACER DIVERGENS* Koch and Pax. Aceraceae. Maple.

According to Koch (*Engler's Botanische Jahrbücher*, vol. 7, p. 234), this maple, native to the Caucasus, is probably a tree; the bark is ash brown. The leathery dark-green leaves are pale beneath and five lobed.

64289 to 64309—Continued.

64291. ACER HYRCANUM Fisch. and Mey.
Aceraceae. Maple.

A southern European maple of compact habit, about 25 feet high, with bright-green 5-lobed leaves, greenish yellow flowers, and samaras about an inch long.

64292 to 64294. CORNUS spp. Cornaceae.
Dogwood.

64292. CORNUS AUSTRALIS Meyer.

A close relative of the common European dogwood (*Cornus sanguinea*). It differs in minor characters only, and is native to Asia Minor and the Caucasus. The European dogwood is a shrub 12 feet high, with dark-red branches, pale-green leaves, dense cymes of greenish white flowers, and black fruits.

64293. CORNUS IBERICA Hort.

A horticultural variety.

64294. CORNUS KOENIGI C. Schneid.

A dogwood native to Transcaucasia, described by Schneider (Illustriertes Handbuch der Laubholzkunde, vol. 2) as a shrub 10 feet or more in height, upright in habit and closely related to the common European dogwood (*Cornus sanguinea*). The branches are purple-brown, the leaves shining green, and the fruits are black.

64295. CUPRESSUS TORULOSA Don. Pinaceae.

Var. *corneyana*. A tall pyramidal cypress, 150 feet or less high, with pendulous branches and deep-green leaves arranged irregularly. It is indigenous to the Himalayas, and will probably be hardy only in the southern United States.

64296. FAGUS ORIENTALIS Lipsky. Fagaceae. Beech.

A tall handsome beech with a pyramidal habit, which is distributed throughout the Caucasus. The leaves are oblong to elliptic, with entire margins. The wood is considered excellent for making furniture, tools, barrels, etc. This beech should be tried in the Southwest as a timber and shade tree.

64297 to 64301. IRIS spp. Iridaceae.

64297. IRIS CARTHAGINIAE Fomin.

A Caucasian iris, described (Moniteur du Jardin Botanique de Tiflis, 1909) as having a thick rhizome and four or five flowered stems nearly 3 feet high. The sword-shaped leaves are about two-thirds of an inch wide, and the flowers are light blue. In its native country the plant grows in damp places.

64298. IRIS CAUCASICA Hoffm.

A rather dwarf iris described by Baker (Irideae, p. 45) as having about six bright-green very narrow leaves 3 to 6 inches long, a short stem, and pale or bright-yellow flowers which appear in March or April. It is native from Asia Minor to Turkestan, ascending to 6,000 feet above sea level.

64299. IRIS MUSULMANICA Fomin.

An iris from the vicinity of Elisabethpol, Caucasus, which, according to the Moniteur du Jardin Botanique de

64289 to 64309—Continued.

Tiflis (vol. 14, 1909), inhabits brackish swamps. It is less than 2 feet tall, and the flowers are either sky-blue or yellowish.

64300. IRIS TASCHIA Hort.

A horticultural variety.

64301. IRIS WINOGRADOWI Fomin.

A Caucasian iris.

64302. JUNIPERUS ISOPHYLLOS Koch. Pinaceae. Juniper.

An oriental juniper described by Koch (Linnaea, vol. 22, p. 304) as a shrubby tree, with light-brown bark and ovate leaves. It differs from *Juniperus pseudo-sabina* in being smaller and having keeled leaves.

64303 to 64306. PAEONIA spp. Ranunculaceae. Peony.

64303. PAEONIA ABCHASICA Hort.

A horticultural variety.

64304. PAEONIA MLOKOSSEWITSCHI Lomakin.

According to Curtis's Botanical Magazine (pl. 8173), this is a herbaceous perennial peony, with dark bluish green biternate leaves with red nerves and margins. The yellow flowers are 4 to 5 inches across, with numerous stamens and purple stigmas. This peony, considered the handsomest of the yellow-flowered forms, is native to the central Caucasus.

64305. PAEONIA TRITERNATA Pall.

A tall herbaceous peony, with carrot-shaped roots, which resembles *Paeonia corallina*, but differs in having rounded leaves, green stems, and rose-colored or whitish flowers. It is native to southeastern Europe.

64306. PAEONIA WITTMANNIANA Hartwiss.

A herbaceous perennial peony 2 to 3 feet high, with biternate leaves 4 to 8 inches long and flowers about 4 inches across. The flowers are solitary, pale yellow, greenish or nearly white. Native to the Caucasus.

64307. PINUS ELDARICA Medw. Pinaceae. Pine.

An erect pine 40 to 50 feet high, native to southern Europe and western Asia, and closely related to the Aleppo pine (*Pinus halepensis*). It differs from the latter in having longer, more rigid leaves which are a deeper green.

64308. PTEROCARYA FRAXINIFOLIA (Lam.) Spach. (*P. caucasica* Meyer). Juglandaceae.

A handsome spreading tree 60 feet or less in height, with attractive dark-green pinnate leaves about a foot long. Its native land is the Caucasus, and it will probably not be hardy north of Massachusetts.

64309. REICHARDIA DICHOTOMA (Bieb.) Freyn. Cichoriaceae.

A perennial herbaceous composite, 2 to 3 feet high, native to Asia Minor, with a rosette of spatulate radical leaves and very small stem leaves. The white flowers are in rather large heads.

64310 to 64339.

From Harbin, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received June 19, 1925. Notes by Mr. Dorsett.

64310. *CANNABIS SATIVA* L. Moraceae.
Hemp.

No. 2802. Pniston, Harbin. May 5, 1925. From the market; said to be locally grown stock.

64311. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench). Polygonaceae.
Buckwheat.

No. 2865. May 12, 1925. Obtained from a grain dealer in the Chinese section.

64312. *HELIANTHUS ANNUUS* L. Astera-
ceae. Sunflower.

No. 2800. Pniston, Harbin. May 5, 1925. A large sunflower obtained in the market; said to be from stock growing near Harbin.

64313. *LINUM USITATISSIMUM* L. Lina-
ceae. Flax.

No. 2803. May 5, 1925. Presented by A. Dmelrieff, flax expert of the Chinese Eastern Railroad.

64314 and 64315. *NICOTIANA TABACUM* L. Solanaceae. Tobacco.

64314. No. 2862. May 12, 1925. A round-leaved Russian tobacco obtained from a seed shop in the Chinese section.

64315. No. 2863½. May 12, 1925. A long-leaved Chinese variety grown in the vicinity of Harbin.

64316 to 64329. *PHASEOLUS* spp. Faba-
ceae.

64316 to 64319. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Aduki bean.

64316. No. 2794. May 5, 1925. A small red bean said to be from local stock.

64317. No. 2870. May 12, 1925. A small white bean obtained in the Chinese section in a grain shop; reported to have come from stock grown in the vicinity of Harbin.

64318. No. 2871. May 12, 1925. *Hua hsiao tou* (flowered small bean), obtained from a seed shop in the Chinese section; said to have come from stock grown in the vicinity of Harbin.

64319. No. 2873. May 12, 1925. A small bluish or black mottled bean obtained from a grain dealer in the Chinese section and said to be from stock grown in the vicinity of Harbin.

64320. *PHASEOLUS AUREUS* Roxb.
Mung bean.

No. 2791. May 5, 1925. A green mung bean known as "lucky bean" and used for making vermicelli and for sprouts.

64321. *PHASEOLUS COCCINEUS* L.
Scarlet Runner bean.

No. 2861. May 11, 1925. *Jih Pin ta pai tou* (large white bean from Japan), from locally grown stock.

64310 to 64339—Continued.

64322 to 64329. *PHASEOLUS VULGARIS* L.
Common bean.

64322. No. 2790. May 5, 1925. A white garden bean with blotches of pink about the hilum, from Te-yuanyung, Harbin. It is used as a vegetable cooked with kaoliang.

64323. No. 2793. May 5, 1925. A large mottled variety reported to be from locally grown stock.

64324. No. 2796. May 5, 1925. A white garden bean used largely by the Japanese.

64325. No. 2801. Pniston, Harbin. May 5, 1925. A deep-pink or red garden bean obtained in the market, reported to have come from locally grown stock.

64326. No. 2863. May 12, 1925. A purple-flowered garden bean obtained from a grain shop in the Chinese section; reported to have come from stock grown in the vicinity of Harbin.

64327. No. 2864. May 12, 1925. *Huang yun tou*, or *Wu yueh hsien yun tou* (yellow garden bean, or fifth month ripening bean). Obtained from a seed shop in the Chinese section.

64328. No. 2867. May 12, 1925. *Chiao tan yun tou*, or *Hua yun tou* (bird-egg bean, or flowered garden bean). Obtained from a seed shop in the Chinese section.

64329. No. 2872. May 12, 1925. A long brown bean known as "pole bean from Japan"; obtained from a grain dealer in the Chinese section of the town and said to have come from stock grown in the vicinity of Harbin.

64330 and 64331. *PISUM SATIVUM* L. Fabaceae. Pea.

64330. No. 2797. May 5, 1925. A white variety from locally grown stock.

64331. No. 2858. May 11, 1925. *Uo Kuo lu wan tou* (green field pea of Russia). This variety, said to have come from locally grown stock, originally came from Russia.

64332. *RAPHANUS SATIVUS* L. Brassi-
caceae. Radish.

No. 2866. May 12, 1925. A large round bright-red radish obtained from a seed man in the Chinese section. These radishes are sometimes as much as 8 to 10 inches in diameter.

64333 to 64336. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim). Fabaceae. Soy bean.

64333. No. 2792. May 5, 1925. Yellow soy beans called in the Harbin market "round bean." These are the ones principally used in the manufacture of oil.

64334. No. 2795. May 5, 1925. *Jih Pin ta hei tou* (large black soy bean of Japan), from stock grown in the vicinity of Harbin. This variety seems as large as or larger than any other soy bean we have seen. They are boiled with milk and sugar.

64310 to 64339—Continued.

64335. No. 2798. May 5, 1925. Green-seeded soy bean from locally grown stock.

64336. No. 2859. May 11, 1925. A black soy bean, green inside, supposed to be from locally grown stock.

64337. *VICIA FABA* L. Fabaceae. Broad bean.

No. 2860. May 11, 1925. A rather small brown broad bean obtained in the market in the Chinese section; reported to be from locally grown stock. Known as "silkworm bean."

64338 and 64339. *VIGNA SESQUIPEDALIS* (L.) Fruwirth. Fabaceae. Yard Long bean.

64338. No. 2868. May 12, 1925. *Hsien tou chiao* (long pod thread bean), obtained from a grain dealer in the Chinese section.

64339. No. 2869. May 12, 1925. A small black bean, used as a vegetable; from the Chinese section.

64340 to 64420.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received June 25 and 26, 1925. Notes by Mr. Dorsett.

64340. *ANETHUM GRAVEOLENS* L. Apiaceae. Dill.

No. 2984. Harbin, May 14, 1925. *Eo Kuo hwei hsian* (Russian fennel). This variety, from locally grown stock, grows about 3 feet in height. Used for seasoning soups and meats.

64341. *APIUM GRAVEOLENS* L. Apiaceae. Celery.

No. 2908. May 14, 1925. Chinese celery from locally grown stock. These seeds were secured from a seed dealer in the Chinese section of Harbin. Used to fry with meat.

64342. *AVENA NUDA* Hoejer. Poaceae. Naked oats.

No. 2912. May 15, 1925. *Chiao mai* (bird wheat). Seeds received from R. C. Flory, Liaochou, Shansi, who says they are quite common on the hills around Liaochou.

64343. *AVENA SATIVA* L. Poaceae. Oats.

No. 2979. May 19, 1925. *Ling ta mia* (oats or ling barley). Manchurian oats procured in a grain shop in the Chinese section of Harbin, and said to have come from locally grown stock. This variety may be of Russian origin.

64344. *BRASSICA JUNCEA* (L.) Coss. Brassicaceae. Chinese mustard.

No. 2909. May 14, 1925. *Chieh ts'ai ke ta* (rooted mustard). Obtained from a seed dealer in the Chinese section of Harbin; from locally grown stock. Used mostly for making pickles.

64345. *BRASSICA* sp. Brassicaceae. Mustard.

No. 2910. May 14, 1925. A Chinese leafy mustard from locally grown stock, used as greens and in making salted vegetables. Obtained from a seed dealer in the Chinese section of Harbin.

64340 to 64420—Continued.

64346. *BRASSICA* sp. Brassicaceae. Mustard.

No. 2920. May 15, 1925. Received from R. C. Flory, Liaochou, Shansi. Mr. Flory reports this mustard as being very commonly used for seasoning and for making plasters, etc.

64347. *CANNABIS SATIVA* L. Moraceae. Hemp.

No. 2915. May 15, 1925. Received from R. C. Flory, Liaochou, Shansi, which he reports is a very common variety.

64348 to 64350. *CAPSICUM ANNUUM* L. Solanaceae. Red pepper.

64348. No. 2905. May 14, 1925. *Eo Kuo ta tien chin chiao* (large Russian sweet pepper), obtained from a seed dealer in the Chinese section of Harbin. When ripe the fruits are red and 3 to 3½ inches in diameter.

64349. No. 2906. May 14, 1925. *Hung chang chin chiao* (red long pepper), from locally grown stock. Obtained from a seed dealer in the Chinese section of Harbin. The fruit when ripe is red and about 4 inches long.

64350. No. 2907. May 14, 1925. *Yang chi chiao chin chiao* (goat horn pepper), from locally grown stock, obtained from a seed dealer in the Chinese section of Harbin.

64351. *CHAETOCLOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

No. 2917. May 15, 1925. Yellow millet received from R. C. Flory, Liaochou, Shansi.

64352. *CHRYSANTHEMUM CORONARIUM* L. Asteraceae.

No. 2891. May 14, 1925. *Teng hao* (cone artemisia). Locally known as "chrysanthemum salad." The leaves and petals of some chrysanthemums are eaten in China as a vegetable.

64353. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

No. 2901. Harbin. May 14, 1925. *Tai li hung hsi kua* (red-fleshed watermelon). The skin is striped light and dark green; the fruit is round and 10 to 12 inches in diameter.

64354 and 64355. *CORIANDRUM SATIVUM* L. Apiaceae. Coriander.

64354. No. 2884. May 14, 1925. *Kao yen sui* (high coriander) obtained from a seed shop in the Chinese section of Harbin. The leaves and small leaf stems are chopped into fine pieces and used in seasoning soups and meats. This variety is said to grow like a shrub, being about 5 feet high, while the other variety, No. 2885 [S. P. I. No. 64355], said to have come originally from Shantung, grows only about a foot high.

64355. No. 2885. May 14, 1925. *At yen sui* (short coriander) obtained from a seed shop in the Chinese section of Harbin. This variety grows about 1 foot high.

64340 to 64420—Continued.

64356. *CORYLUS* sp. Betulaceae. Hazel.

No. 2934. May 15, 1925. Manchurian hazel obtained from the market in the Chinese section of Harbin, said to have come originally from Nientzeshan, about 75 miles north of Harbin. The shell is very thick, and the kernel is small but of very good quality.

64357 and 64358. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

64357. No. 2887. May 14, 1925. *Hu pi tsui kua* (tiger skin brittle melon) obtained in the Chinese section of Harbin. This melon, eaten mostly when boiled, is about 4 inches in diameter and 6 to 7 inches in length.

64358. No. 2893. Harbin. May 14, 1925. *Eo Kuo tien kua* (Russian melon). Mr. Skvortzow tells us that this is a hybrid between the Russian and Chinese varieties. The fruit, about 6 inches in diameter and 1 foot or more in length, is yellow and green.

64359 to 64361. *CUCUMIS SATIVUS* L. Cucurbitaceae. Cucumber.

64359. No. 2888. May 14, 1925. *Pai pi tsai kua* (white-skinned cucumber); a locally grown product. The fruit is 12 to 18 inches in length and is used as a vegetable boiled with meat.

64360. No. 2889. Harbin. May 14, 1925. *Kuai chang huang kua* (early ripening long cucumber), from locally grown stock. The fruit is a foot or more in length and is green inside.

64361. No. 2890. May 14, 1925. *Eo Kuo huang kua* (Russian common cucumber), grown generally about Harbin. It is from 5 to 6 inches long.

64362 and 64363. *CUCURBITA MAXIMA* Duchesne. Cucurbitaceae. Squash.

64362. No. 2896. Harbin. May 14, 1925. *Wo kua* (big pumpkin gourd). The yellow fruit is cut into small pieces, boiled, and eaten as a vegetable.

64363. No. 2921. May 15, 1925. *Nan kua* (white pumpkin), commonly grown by the farmers. Received from R. C. Flory, Liaochou, Shansi.

64364 and 64365. *CUCURBITA PEPO* L. Cucurbitaceae. Pumpkin.

64364. No. 2895. Harbin. May 14, 1925. *Eo Kuo hsi hulu* (Russian vegetable marrow). This pumpkin, of Russian origin, grows about 5 inches in diameter and 12 to 18 inches in length.

64365. These seeds, which are brown, were included in the lot sent in under Mr. Dorsett's No. 2921 [S. P. I. No. 64363].

64366. *FAGOPYRUM TATARICUM* (L.) Gaertn. Polygonaceae.

No. 2924. May 15, 1925. *K'u chiao mai* (bitter buckwheat), received from R. C. Flory, Liaochou, Shansi, which he reports as not being very common and which is made into cake flour.

64340 to 64420—Continued.

64367. *FAGOPYRUM VULGARE* Hill (*F. esculentum* Moench). Polygonaceae. Buckwheat.

No. 2923. May 15, 1925. R. C. Flory, of Liaochou, Shansi, who presented these seeds, says that they are common up on the hills. They are made into flour and used as food by the people.

64368. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.). Poaceae. Sorghum.

No. 2913. May 15, 1925. *Hung kao liang* (red kaoliang). Received from R. C. Flory, Liaochou, Shansi. He reports that this material is commonly grown.

64369 and 64370. *HORDEUM VULGARE* PAL-LIDUM Seringe. Poaceae.

Six-rowed barley.

64369. No. 2931. May 15, 1925. R. C. Flory, Liaochou, Shansi, who presented this material, gives the following note: Not very common in this vicinity but seen frequently in the market.

64370. No. 2977. May 19, 1925. *Oh Lin ta mai* (barley of Kirin, Manchuria) obtained from a seed shop in the Chinese section of Harbin. Said to be from locally grown stock.

64371 to 64373. *LAGENARIA LEUCANTHA* (Duchesne) Rusby. Cucurbitaceae. Gourd.

64371. No. 2902. Harbin. May 14, 1925. *Hsiao ya hulu* (small ornamental gourd). The fruit is about 4 inches in length.

64372. No. 2903. Harbin. May 14, 1925. *Ta ya hulu* (large ornamental gourd), which grows 12 inches long. From locally grown seed.

64373. No. 2904. May 14, 1925. *Ta hulu* (big gourd), from locally grown stock. This variety, used for making dippers, was obtained from a seed dealer in the Chinese section of Harbin.

64374. *LENTILLA LENS* (L.) W. F. Wight (*Lens esculenta* Moench). Fabaceae. Lentil.

No. 2830. May 15, 1925. *Hsiao pien tou* (small flat bean). Received from R. C. Flory, Liaochou, Shansi.

64375 to 64377. *PANICUM MILIACEUM* L. Poaceae. Proso.

64375. No. 2897. Harbin. May 14, 1925. *Kuai mei tze* (sticky millet), from locally grown stock. The Chinese make flour for bread out of this variety.

64376. No. 2918. May 15, 1925. *Nien ku tze* (glutinous millet), received from R. C. Flory, Liaochou, Shansi. He reports that this material is commonly used for food.

64377. No. 2919. May 15, 1925. *Mei tze* (Tsa millet), received from R. C. Flory, Liaochou, Shansi, who gives the following report: This variety is not so common as the above [S. P. I. No. 64376]. If the rains come late in the summer this can be planted and it will mature, whereas the common millet would not.

64340 to 64420—Continued.

64378 to 64404. *PHASEOLUS* spp. Fabaceae.

64378. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Adsuki bean.

No. 2929. May 15, 1925. *Hei hsiao tou* (black or mottled small bean), received from R. C. Flory, Liaochou, Shansi. He says this variety is used as food, and he thinks it is also made into bean curd.

64379. *PHASEOLUS AUREUS* Roxb. Mung bean.

No. 2914. May 15, 1925. According to R. C. Flory, of Liaochou, Shansi, who presented this variety, the name is *Lu tou* (green bean). It is commonly used as food and is especially used to produce sprouts.

64380. *PHASEOLUS COCCINEUS* L. Scarlet Runner bean.

No. 2899. Harbin. May 14, 1925. *K'an hua tou* (large-flowered bean). This variety produces large lavender and bluish black beans and large pink flowers.

64381 to 64404. *PHASEOLUS VULGARIS* L. Common bean.

64381. No. 2886. May 14, 1925. *Hsiao huang yun tou* (small yellow garden bean) obtained from a seed dealer in the Chinese section of Harbin. This is a rather small brownish yellow bean from stock said to be locally grown. We understand that this is not used very much as a green bean but is grown for the seed.

64382 to 64392. May 15, 1925. *P'a hsien tou* (string bean). These seeds, which were badly mixed, were received from R. C. Flory, Liaochou, Shansi. According to Mr. Flory, they are very common.

64382. No. 2916.

64383. No. 2916-A.

64384. No. 2916-B.

64385. No. 2916-C.

64386. No. 2916-D.

64387. No. 2916-E.

64388. No. 2916-F.

64389. No. 2916-G.

64390. No. 2916-H.

64391. No. 2916-I.

64392. No. 2916-J.

64393 to 64401. May 10, 1925. *Huang chiao tau ta tou* (yellow bird-egg bean), from locally grown stock, obtained in the Chinese section of Harbin. These seeds were very badly mixed.

64393. No. 2978. Creamy white streaked with brown.

64394. No. 2978-A.

64395. No. 2978-B.

64396. No. 2978-C.

64397. No. 2978-D.

64398. No. 2978-E.

64340 to 64420—Continued.

64399. No. 2978-F.

64400. No. 2978-G.

64401. No. 2978-H.

64402. No. 2980. May 19, 1925. *Pai yun tou* (white garden bean), said to be from locally grown stock. This variety, obtained in the Chinese section of Harbin, is a rather small white bean which somewhat resembles our navy bean.

64403. No. 2981. May 19, 1925. A yellowish brown mottled bean with a creamy base, obtained in the Chinese section of Harbin.

64404. No. 2985. Harbin. May 19, 1925. *Chiang mi tou* (white rice bean or small white bean), which is said to have come from locally grown stock. It is smaller than the one under No. 2980 [S. P. I. No. 64402].

64405 to 64407. *PISUM SATIVUM* L. Fabaceae. Pea.

64405. No. 2892. Harbin. May 14, 1925. *Eo Kuo wau tou* (Russian garden pea), said to be very good as a fresh vegetable. This variety, from locally grown stock, is said to be used also as a field pea.

64406. No. 2932. May 15, 1925. According to R. C. Flory, of Liaochou, Shansi, who sent this material to us, these field peas, or "round beans," as the Chinese call them, are not very common. They are sometimes grown on hills.

64407. No. 2982. May 19, 1925. A small variety, said to have come from locally grown stock, obtained from a grain dealer in the Chinese section of Harbin.

64408. *RICINUS COMMUNIS* L. Euphorbiaceae. Castor bean.

No. 2898. May 14, 1925. A small light and dark gray-brown mottled castor bean obtained from a shop in the Chinese section of Harbin. Said to be from locally grown stock.

64409 to 64414. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

64409. No. 2922. May 15, 1925. A small black bean, received from R. C. Flory, Liaochou, Shansi, who says that it is commonly grown and is used as an animal feed.

64410 to 64413. May 15, 1925. Received from R. C. Flory, and according to him they are common and very often used to make bean curd.

64410. No. 2925. Yellow soy beans.

64411. No. 2926. Soy beans of a rather dark-green color.

64412. No. 2927. A light-green variety.

64413. No. 2928. A brown soy bean which is nearly round.

64414. No. 2983. May 19, 1925. A small black soy bean, said to be from locally grown stock, obtained from a grain dealer in the Chinese section of Harbin.

64340 to 64420—Continued.

64415. SPINACIA OLERACEA L. Chenopodiaceae. Spinach.

No. 2900. May 14, 1925. Locally grown Chinese spinach, obtained from a shop in the Chinese section of Harbin.

64416. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 2911. May 15, 1925. Received from R. C. Flory, Liaochou, Shansi.

64417 to 64419. VIGNA SINENSIS (Torner) Savi. Fabaceae. Cowpea.

64417. No. 2916-K. May 15, 1925. Received from R. C. Flory, of Liaochou, Shansi, and according to him they are very common.

64418. No. 2916-L. May 15, 1925. Received from R. C. Flory, Liaochou, Shansi, who says they are very common.

64419. No. 2984. May 19, 1925. *Ma chian tou* (mottled cowpea), from locally grown stock, obtained from a grain dealer in the Chinese section of Harbin. The cowpeas are creamy at the base and have brownish red markings.

64420. ZEA MAYS L. Poaceae. Corn.

No. 2933. May 15, 1925. A small-grained yellow corn received from R. C. Flory, Liaochou, Shansi. He says this is plentiful as food for both man and beast. The people use it as a cake flour.

64421. CITRUS sp. Rutaceae.

From Simla, India. Plants presented by H. E. J. Peake, Khaltoo Fruit Orchards, Solan Brewery. Received May 6, 1925.

A wild lemon, indigenous to the Simla Hills, which is ideal as a citrus stock. (Peake.)

64422 to 64428.

From Morocco. Bulbs and seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 29, 1925. Notes by Doctor Fairchild.

64422 and 64423. NARCISSUS spp. Amaryllidaceae.

A beautiful species accustomed to remain dormant as bulbs in the scorching

64422 to 64428—Continued.

soils of the near desert for six months at least, and then, in the early spring, when the rains come, to send up their slender leaves and delicate flower stalks with one to three white, almost translucent, nodding flowers. Found by Graham Fairchild on the outcropping of rocks called the Socrat en Nemra, near Boulhaut, northern Morocco.

64422. NARCISSUS sp.

Bulbs.

64423. NARCISSUS sp.

Seeds.

64424. NARCISSUS sp. Amaryllidaceae.

These bulbs were collected on the mountain near Ouezzan.

64425. ORNITHOGALUM UNIFOLIUM (L.) Ker. Liliaceae.

According to Prof. R. Maire, this is an attractive species and worthy a place in the amateur's collection. It occurs wild in the region around Marchang and near Rabat, Morocco.

A tender bulbous plant, native to the Mediterranean region, with greenish flowers. It is about 6 inches high.

64426. ROMULEA BULBOCODIUM (L.) Sebast. and Mauri. Iridaceae.

Bulbs from the plateau between Oujda and Taza, Morocco. The Arab boys and women dig the tiny corms, which are good to eat and rather sweet, and tie them into bundles. The baked clay soil in this region is peppered with little rosettes made by the slender grasslike leaves.

For previous introduction see S. P. I. No. 63482.

64427 and 64428. ROMULEA ENGLERI Bequinot. Iridaceae.

The *Romulea* is somewhat like a small-flowered crocus. Prof. R. Maire says that this is one of the best.

According to Engler's *Botanische Jahrbücher* (vol. 38, p. 324), the violet flowers of this bulbous plant are borne singly or in few-flowered clusters on scapes about 20 inches high. The leaves, which are longer than the scape, are flattened cylindrical.

64427. Bulbs.

64428. Seeds.

INDEX OF COMMON AND SCIENTIFIC NAMES

- Abies koreana*, 63676.
sibirica nephrolepis, 64231.
spectabilis, 64289.
webbiana. See *A. spectabilis*.
Abroma augusta, 64166.
Abutilon ramiflorum, 64030.
Acacia aneura, 63998.
giraffae, 64215.
pendula, 63999.
Acanthopanax senticosum, 64232.
Acer sp., 64245.
divergens, 64290.
hyrcanum, 64291.
osmastoni, 64167.
tegmentosum, 64233.
Adenanthra microsperma, 63758, 63787, 63788.
 Adlay. See *Coix lacryma-jobi ma-yuen*.
Aeschynomene elaphroxylon, 64031.
Azela bijuga. See *Intsia bijuga*.
Agropyron cristatum, 63800, 63801, 64090.
orientale, 64091.
orientale lasianthum, 64092.
sibiricum, 63802.
Albizzia adianthifolia, 63759.
chinensis, 63582.
fastigiata. See *A. adianthifolia*.
stipulata. See *A. chinensis*.
 Alfalfa. See *Medicago sativa*.
Alpinia spp., 63551, 63691, 63755.
Amaryllis. See *Hippeastrum* spp.
Amygdalus persica, 63850, 63852, 63908.
Anchusa undulata, 64184.
Andromeda ovalifolia. See *Pieris ovalifolia*.
Andropogon serratus, 63690.
Anethum graveolens, 64340.
Anthyllis vulneraria, 63589.
Apium graveolens, 64341.
 Apple. See *Malus* spp.
 Apricot. See *Prunus armeniaca*.
Araujia megapota mica, 64168.
Arctotis stoechadifolia, 64169.
Argyrolobium linnaeanum, 64170.
Arracacha. See *Arracacia xanthorrhiza*.
Arracacia esculenta. See *A. xanthorrhiza*.
xanthorrhiza, 63580.
 Arrowroot. See *Maranta arundinacea*.
 Ash. See *Fraxinus* spp.
Astragalus bubaloceras, 63978.
frigidus, 63979.
galegiformis, 63980.
glycyphylloides, 63981.
hamosus, 63982.
ponticus, 63983.
Avena barbata, 64093.
ludoviciana, 64094.
nuda, 64342.
sativa, 63895-63897, 64343.
 Bamboo. See *Bambos* spp.
 undetermined, 63693-63699.
Bambos spp., 63976, 64054-64056.
 Banana. See *Musa* spp.
 Barberry. See *Berberis* spp.
 Barley. See *Hordeum* spp.
Baryxylum dasyrachis, 63760.
Bauhinia blakeana, 63968.
 Bean, adzuki. See *Phaseolus angularis*.
 common. See *P. vulgaris*.
 mung. See *P. aureus*.
 rice. See *P. calcaratus*.
 Scarlet Runner. See *P. coccineus*.
 Yard Long. See *Vigna sesquipedalis*.
 Beech. See *Fagus orientalis*.
Benincasa hispida, 63909.
Berberis spp., 64246-64249.
replicata, 63822.
Berria ammonilla, 63761.
Bersama usambarica, 63762.
 Berseem. See *Trifolium alexandrinum*.
Betula schmidtii, 64234.
Billbergia variegata. See *Neoglaziovia variegata*.
 Binukao. See *Garcinia binucao*.
 Birch. See *Betula schmidtii*.
Bischofia sp., 63789.
Boehmeria nivea, 63790.
platyphylla, 64117.
rugulosa, 64118.
sidaefolia, 64119.
Bouea burmanica. See *B. oppositifolia*.
oppositifolia, 63586.
Bougainvillea warszewiczii, 63554.
Brassica spp., 63867, 63910-63915, 64345, 64346.
juncea, 64344.
Bridelia micrantha, 63763.
monica, 63791.
 Broad bean. See *Vicia faba*.
Bromus inermis, 63803-63805.
 Buckwheat. See *Fagopyrum vulgare*.
Buddleia alternifolia, 63777.
Callicarpa giraldiviana, 63678.
Calycophyllum candidissimum, 63628.
Canarium pimela, 63622.
polyphyllum, 63764.
Canavalia mattogrossensis. See *Wendertia mattogrossensis*.
Cannabis sativa, 63916, 64310, 64347.
Capsicum annuum, 64185, 64348-64350.
Caragana sp., 64250.
Carex pumila, 63855.
Carica papaya, 64206, 64216.
Carpinus turczaninowii, 63679.
Cassiope sp., 64251.
 Castor bean. See *Ricinus communis*.
Casuarina sp., 63668.
distyla, 63765.
 Catjang. See *Vigna cylindrica*.
Celastrus hindsii, 63623.
 Celery. See *Apium graveolens*.
Cerinth gymnanandra, 64186.
Chaetochloa italica, 63700, 64351.
 Cherry. See *Prunus maackii*.
 Manchu. See *P. tomentosa*.
 pin. See *P. pennsylvanica*.
Chrysanthemum coronarium, 64352.
Chrysophyllum monopyrenum, 63583, 63785.
oliviforme. See *C. monopyrenum*.
 Citron. See *Citrus medica*.
Citrullus vulgaris, 63701, 63917, 63918, 64353.
Citrus sp., 64421.
aurantium, 63550.
medica, 64171-64173.
Clematis sp., 64252.
 Clover. See *Trifolium* spp.
Coffea spp., 63604, 63767.
bukobensis, 63766.
excelsa, 63602, 63751.
laurentii, 63603.
robusta. See *C. laurentii*.
 Coffee. See *Coffea* spp.
Coix lacryma-jobi ma-yuen, 63829, 64075-64081, 64207-64209.
Colocasia sp., 63837.
esculenta, 64014.
 Coriander. See *Coriandrum sativum*.

- Coriandrum sativum*, 64354, 64355.
 Corn. See *Zea mays*.
Cornus australis, 64292.
 iberica, 64293.
 koenigi, 64294.
Corylus sp., 64356.
 chinensis, 63680.
Cosmos sp., 64084.
Cotoneaster sp., 64253.
 Cotton. See *Gossypium* spp.
Cotula cinerea, 63670.
 Cowpea. See *Vigna sinensis*.
Cracca adunca, 64033.
Crotalaria candicans, 64066.
 capensis, 64058.
 incana, 64059.
 leioloba, 64060, 64067.
 retusa, 64061.
 spectabilis, 64062.
 striata, 64063.
 tetragona, 64068, 64120, 64174.
 usaramoensis, 64064.
 verrucosa, 64065.
Croton floribundus, 64101.
 Cucumber. See *Cucumis sativus*.
Cucumis melo, 63702-63713, 64357, 64358.
 sativus, 64153, 64359-64361.
Cucurbita maxima, 64362, 64363.
 moschata, 63671, 63714, 64154.
 pepo, 64364, 64365.
Cupressus torulosa, 64295.
 Cushaw. See *Cucurbita moschata*.
Cyanella capensis, 64114.

Dahlia variabilis, 64286.
 Darnel. See *Lolium temulentum*.
Deguelia dalbergioides, 63768.
Derris dalbergioides. See *Deguelia dalbergioides*.
Desmodium discolor. See *Meibomia discolor*.
 gyrans. See *M. gyrans*.
 gyroides. See *M. gyroides*.
 laburnifolium. See *M. laburnifolia*.
 leiocarpum. See *M. leiocarpa*.
 pulchellum. See *M. pulchella*.
Desmos chinensis, 63624.
 Dill. See *Anethum graveolens*.
Dioscorea alata, 63838.
Diospyros kaki, 63500-63521.
 sinensis, 63555, 63556.
Dipcadit serotinum, 64086, 64187.
Dipterocarpus trinervis, 63769.
 Dogwood. See *Cornus* spp.
Dysolobium grande, 64034.

Ecballium elaterium, 64188.
Eccremocarpus scaber, 64175.
Eleocharis tuberosa, 63549.
Elymus dahuricus, 63806.
 sibiricus, 63807, 63808.
Enkianthus sp., 64254.
Erica nana, 64115.
Eriobotrya japonica, 63557-63559.
Erodium ciconium, 63984.
 manescavi, 63985.
Eucalyptus algeriensis, 64176.
 trabuti, 63581.
Euonymus sp., 63919.
Euryale ferox, 63823.

Fagopyrum esculentum. See *F. vulgare*.
 tataricum, 64366.
 vulgare, 63920, 63921, 64126, 64127, 64311, 64367.
Fagus orientalis, 64296.
 Fenugreek. See *Trigonella foenum-graecum*.
Ficus chlamydodora, 63770.
 nitida, 63560.
 Fir. See *Abies spectabilis*.
 Firethorn. See *Pyracantha* sp.
Flacourtia rukam, 63771.
 Flax. See *Linum usitatissimum*.
 New Zealand. See *Phormium tenax*.
Flemingia strobilifera, 64035.
Fragaria spp., 63571, 63651-63661, 63663-63665, 63667.
Fraginus chinensis, 63792.
 mandshurica, 64235.
Funtumia elastica, 63786.

Garcinia binucao, 63853.
 venulosa, 63854.
Gaudinia fragilis, 63986.
Geijera parviflora, 64000.
Genista sphaerocarpa, 63977.
 Ginger. See *Zinziber* sp.
Gladiolus byzantinus, 64057.
Gleditsia australis. See *G. fera*.
 fera, 63625.
Glycine hispida. See *Soja max*.
 Gooseberry. See *Ribes* sp.
Gossypium spp., 63844, 63845, 64002, 64003, 64123-64125, 64157.
 barbadense, 63890-63894.
 hirsutum, 63553.
 nanking, 63841-63843.
 obtusifolium africanum, 63727, 63728.
 punctatum, 63729.
 Gourd. See *Lagenaria leucantha*.
 Granadilla, purple. See *Passiflora edulis*.
 Grass. See *Agropyron* spp.
 Andropogon serratus.
 Bromus inermis.
 Elymus spp.
 Gaudinia fragilis.
 Koeleria setacea.
 Melica spp.
 Neyraudia madagascariensis.
 Oryzopsis spp.
 Panicum laevifolium.
 Phleum phleoides.
 Syntherisma sp.
 Triticum cylindricum.
 speltoides.
 trunciale.
 tabucki. See *Holcus sorghum verticilliflorus*.
 tussock. See *Poa flabellata*.

 Hazel, *Corylus* sp., 64356.
Hedysarum gmelini, 63809, 63810.
Helianthemum aegyptiacum, 64189.
Helianthus annuus, 64312.
 tuberosus, 63522-63541, 63606, 63739, 63740, 63754.
Hemiptelea davidii, 63681.
 Hemp. See *Cannabis sativa*.
 ambari. See *Hibiscus cannabinus*.
Hibiscus cannabinus, 63922.
Hippeastrum spp., 64052, 64053, 64085.
Holcus sorghum, 63715-63717, 63923, 64082, 64083, 64199-64205, 64368.
 sorghum verticilliflorus, 64287.
 Holly. See *Ilex* spp.
 Honey locust. See *Gleditsia fera*.
 Honeysuckle. See *Lonicera* spp.
Hordeum spp., 63924-63926, 64128, 64129.
 distichon palmella, 63898, 63899.
 vulgare nigrum, 64273.
 vulgare pallidum, 63900, 64004, 64022, 64274-64276, 64369, 64370.

Ilex spp., 63793, 63794, 64255.
 rotunda, 63626.
Indigofera anil. See *I. suffruticosa*.
 endecaphylla, 63605.
 suffruticosa, 64036.
Intsia bijuga, 63772.
Iris spp., 63830, 64256, 64257.
 alata, 64190.
 carthaginiensis, 64297.
 caucasica, 64298.
 musulmanica, 64299.
 pumila, 64005.
 taschia, 64300.
 winogradovi, 64301.

Jacaranda chelonja, 63987.
 Jerusalem artichoke. See *Helianthus tuberosus*.
Juglans sp., 63588.
 Juniper. See *Juniperus* spp.
Juniperus isophyllos, 64302.

 Kaki. See *Diospyros kaki*.
 Kidney vetch. See *Anthyllis vulneraria*.
Koeleria setacea, 63672.

Lactuca sativa, 63752.
Lagenaria leucantha, 64371-64373.

- Landolphia* sp., 63774.
klainii, 63737, 64164.
owariensis, 64165.
parvifolia, 63738.
stolzii, 63773.
 Larch. See *Larix dahurica*.
Larix dahurica, 64236.
dahurica principis-ruprechtii, 63682.
eurolepis, 63683.
Lens esculenta. See *Lentilla lens*.
 Lentil. See *Lentilla lens*.
Lentilla lens, 64374.
Lespedeza striata, 63811.
 Lettuce. See *Lactuca sativa*.
Leucopum autumnale, 64191, 64244.
trichophyllum, 64087.
 Lilac. See *Syringa sweginzowii*.
Lilium spp., 63831, 64258-64260.
croceum, 63496.
dauricum, 63827.
leucanthum chloraster, 64222.
martagon, 63828.
regale, 63775.
 Lily. See *Lilium* spp.
 regal. See *Lilium regale*.
Linum usitatissimum, 64313.
Liriope graminifolia, 64158.
spicata. See *L. graminifolia*.
Lolium temulentum, 64160, 64161.
Loniceria spp., 63832-63836, 64261-64263.
 Loquat. See *Eriobotrya japonica*.
Lotus tetragonolobus, 64051.
Lycopersicon esculentum, 63907.
Maackia amurensis, 64237.
Malus sylvestris, 63741-63749.
Manihot glaziovii, 63776, 63777, 63798, 64037.
 Maple. See *Acer* spp.
Maranta arundinacea, 64015.
Medicago falcata, 63812, 63813:
platycarpa, 63814.
sativa, 63815, 63816, 64100.
Meibomia discolor, 64288.
gyrans, 64038.
gyroides, 64177.
laburnifolia, 64039.
leiocarpa, 64217.
pulchella, 64040, 64178.
Melica altissima, 63988.
ciliata, 63989.
uniflora, 63990.
 Melon. See *Cucumis melo*.
Meryta sinclairii, 64196.
 Millet. See *Chaetochloa italica*.
Musa paradisiaca sapientum, 63784, 64006-64013, 64162, 64163.
testilis, 63778.
uranoscopos, 63821.
Mussaenda sp., 63627.
 Mustard. See *Brassica* spp.
 Chinese. See *B. juncea*.
Myoporum sp., 64192.
Myroxylon senticosum, 63629.
Narcissus spp., 64422-64424.
Neoglaziovia variegata, 63868.
Neptunia oleracea, 64179.
Nerium oleander, 63552.
Neyraudia madagascariensis, 63799.
Nicotiana tabacum, 64314, 64315.
Nomocharis sp., 64264.
 Oats. See *Avena* spp.
Olea europaea, 63856-63866.
Oleander. See *Nerium oleander*.
 Olive. See *Olea europaea*.
Oncoba spinosa, 63498.
Oncocalamus sp., 64180.
Onobrychis viciaefolia. See *O. vulgaris*.
vulgaris, 63817.
Onosma sp., 64265.
Ophiopogon sp., 64159.
 Orange, sour. See *Citrus aurantium*.
Ormosia arborea, 64041.
calavensis, 63795.
Ornithogalum spp., 63846-63849.
unifolium, 64193, 64425.
Oryza sativa, 63901-63904, 63969, 64103-64108.
Oryzopsis holciformis, 64095.
paradoxa virescens, 64096.
Pachira fastuosa, 63779.
Paeonia abchastica, 64303.
milokosewitschi, 63684, 64304.
triternata, 64305.
wittmanniana, 64306.
 Palm. See *Oncocalamus* sp.
Ptychococcus paradoxus.
 date. See *Phoenix dactylifera*.
Pancratium collinum, 64181.
Pandanus sp., 63630.
Panicum laevifolium, 64218.
miliaceum, 63927, 63928, 64375-64377.
 Papaya. See *Carica papaya*.
Paspalum racemosum, 63991.
Passiflora edulis, 63601.
Pavonia paniculata, 64042.
sepium, 64043.
spinifex, 64044.
 Pea. See *Pisum sativum*.
 Peach. See *Amygdalus persica*.
 Pear. See *Pyrus* spp.
Peltophorum dasyrachis. See *Baryxylum dasyrachis*.
Pentas sp., 63780.
 Peony. See *Paeonia* spp.
 Pepper, red. See *Capsicum annum*.
Phalaris bulbosa, 63973, 63974.
Phaseolus angularis, 63929-63934, 64130-64133, 64316-64319, 64378.
aureus, 63634, 63635, 63718, 63935-63938, 64023-64026, 64134-64137, 64320, 64379.
calcaratus, 64277, 64278.
coccineus, 64321, 64380.
vulgaris, 63939, 64155, 64322-64329, 64381-64404.
Phleum boehmeri. See *P. phleoides*.
phleoides, 63818, 63992.
Phoenix dactylifera, 63975.
Phormium tenax, 64197.
Picea jezoensis, 64238.
Pieris ovalifolia, 64121.
 Pine. See *Pinus eldarica*.
Pinus eldarica, 64307.
Piroydonia winkleri, 63689.
Pisum sativum, 63547, 63548, 63561-63570, 63572-63579, 63869, 63876-63889, 64045-64050, 64071, 64138, 64279-64283, 64330, 64331, 64405-64407.
 Plum. See *Prunus salicina*.
Poa flabellata, 63972, 64210.
Poecilanthus parviflora, 63993.
 Poplar. See *Populus* sp.
Populus sp., 64266.
 Potato. See *Solanum tuberosum*.
Pothos sp., 63825.
seemannii, 63756.
 Proso. See *Panicum miliaceum*.
Prunus armeniaca, 63607-63609.
maackii, 64239.
pennsylvanica, 63735.
persica. See *Amygdalus persica*.
salicina, 64240.
tomentosa, 63750.
Pseudogaltonia pechuelli, 64116.
Psychotria elliptica, 63631.
Pterocarya caucasica. See *P. fraxinifolia*.
fraxinifolia, 64308.
Ptychococcus paradoxus, 63781.
 Pumpkin. See *Cucurbita pepo*.
 Puriri. See *Vitex lucens*.
Pyracantha sp., 64221.
Pyrus chinensis × *communis*, 64223-64230.
ussuriensis, 64241.
 Radish. See *Raphanus sativus*.
 Ramie. See *Boehmeria nivea*.
Randia sp., 63782.
Raphanus sativus, 64332.
Raphiolepis indica, 63632.
 Raspberry. See *Rubus* spp.
Reichardia dichotoma, 64309.

- Rheum* sp., 64267.
Rhus pentaphylla, 64194.
Ribes sp., 63736.
 Rice. See *Oryza sativa*.
Ricinus communis, 64408.
Romulea bulbocodium, 64426.
 engleri, 64427, 64428.
Rosa sp., 64268.
 foliolosa × *rugosa*, 63685.
 Rose. See *Rosa* spp.
 Rubber, Ceara. See *Manihot glaziovii*.
 Rubber tree, Lagos. See *Funtumia elastica*.
Rubus spp., 63666, 63840, 64072, 64073.
 ellipticus, 64211.
 fraxinifolius, 64212.
 niveus, 64214.
 pectinellus, 64213.
Saccharum officinarum, 63546, 63610–63621,
 63732, 63733, 64088, 64089, 64219, 64220.
Salix spp., 64269–64271.
 Satin leaf. See *Chrysophyllum monopyrene-*
 num.
Saxifraga purpurascens, 63662.
Schefflerodendron usambarense, 63783.
Schizandra chinensis, 64242.
Sclerocarya birrea, 63499.
 Sedge. See *Carex pumila*.
Sesban aculeatum, 64069.
 aegyptiacum, 63970.
 cinerascens, 63971.
 sericeum, 64070.
Setaria italica. See *Chaetochloa italica*.
Smilax sp., 63633.
Soja max, 63587, 63636–63642, 63719–
 63721, 63796, 63940–63951, 64139–64145,
 64284, 64333–64336, 64409–64414.
Solanum tuberosum, 63490–63495, 63542–
 63544.
 Sorghum. See *Holcus sorghum*.
Sorghum vulgare. See *Holcus sorghum*.
 Soy bean. See *Soja max*.
 Spinach. See *Spinacia oleracea*.
Spinacia oleracea, 63952, 64415.
 Squash. See *Cucurbita maxima*.
Sterculia diversifolia, 64001.
Stizolobium deeringianum, 63643.
 pachylobium, 63824.
 Strawberry. See *Fragaria* spp.
 Sugar cane. See *Saccharum officinarum*.
 Sunflower. See *Helianthus annuus*.
Syntherisma sp., 63730.
Syringa sweginowii, 63584.
 Taro. See *Colocasia esculenta*.
 Telegraph plant. See *Meibomia gyrans*.
Tephrosia adunca. See *Cracca adunca*.
Terminalia chebula, 63644, 63645.
Thalictrum sp., 64272.
Themeda gigantea, 64122.
Thunbergia grandiflora, 63497.
Tilia amurensis, 64243.
 Tobacco. See *Nicotiana tabacum*.
 Tomato. See *Lycopersicon esculentum*.
Tradescantia sp., 64195.
Trifolium alexandrinum, 63669.
 pratense, 63585, 63590–63595, 63673,
 63674, 63753.
 repens, 63545, 63596–63600, 63675,
 63819.
 rubens, 63994.
 squarrosum, 63995.
Trigonella ensifera, 63996.
 foenum-graecum, 63722.
 hamosa, 63997.
Triticum aestivum, 63723, 63905, 63906,
 63953–63957, 64074, 64102, 64109–
 64113, 64146–64149, 64285, 64416.
 cylindricum, 64097.
 speltoides, 64098.
 trunciale, 64099.
 vulgare. See *T. aestivum*.
 Undetermined, 63692–63699, 63757, 63826,
 63870–63875.
Vernonia volkameriaefolia, 64182.
 Vetch. See *Vicia amoena*.
Viturnum americanum, 63734.
 henryi, 63686.
 hupehense, 63687.
 utile, 63688.
Vicia amoena, 63820.
 faba, 64150, 64337.
Vigna cylindrica, 63646–63648.
 sesquipedalis, 63958, 63959, 64338,
 64339.
 sinensis, 63724, 63725, 63960–63965,
 64016–64021, 64027–64029, 64151,
 64156, 64417–64419.
Vitex lucens, 64198.
 negundo incisa, 63649.
 quinata, 63797.
 trifolia, 63650.
Voandzeia subterranea, 63731.
 Walnut. See *Juglans* sp.
 Watermelon. See *Citrullus vulgaris*.
 Wax gourd. See *Benincasa hispida*.
Wenderothia mattogrossensis, 63032.
 Wheat, common. See *Triticum aestivum*.
 Willow. See *Salix* spp.
Xylosma senticosum. See *Myroxylum*
 senticosum.
 Yam. See *Dioscorea alata*.
Zanthoxylum alatum planispinum, 64183.
Zea mays, 63726, 63966, 63967, 64152,
 64420.
Zelkova davidii. See *Hemiptelea davidii*.
Zinziber sp., 63839.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

August 22, 1927

<i>Secretary of Agriculture</i> -----	W. M. JARDINE.
<i>Assistant Secretary</i> -----	R. W. DUNLAP.
<i>Director of Scientific Work</i> -----	A. F. WOODS.
<i>Director of Regulatory Work</i> -----	WALTER G. CAMPBELL.
<i>Director of Extension</i> -----	C. W. WARBURTON.
<i>Director of Personnel and Business Administration</i> -----	W. W. STOCKBERGER.
<i>Director of Information</i> -----	NELSON ANTRIM CRAWFORD.
<i>Solicitor</i> -----	R. W. WILLIAMS.
<i>Weather Bureau</i> -----	CHARLES F. MARVIN, <i>Chief</i> .
<i>Bureau of Animal Industry</i> -----	JOHN R. MOHLER, <i>Chief</i> .
<i>Bureau of Dairy Industry</i> -----	C. W. LARSON, <i>Chief</i> .
<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Forest Service</i> -----	W. B. GREELEY, <i>Chief</i> .
<i>Bureau of Chemistry and Soils</i> -----	C. A. BROWNE, <i>Acting Chief</i> .
<i>Bureau of Entomology</i> -----	L. O. HOWARD, <i>Chief</i> .
<i>Bureau of Biological Survey</i> -----	PAUL G. REDINGTON, <i>Chief</i> .
<i>Bureau of Public Roads</i> -----	THOMAS H. MACDONALD, <i>Chief</i> .
<i>Bureau of Agricultural Economics</i> -----	LLOYD S. TENNY, <i>Chief</i> .
<i>Bureau of Home Economics</i> -----	LOUISE STANLEY, <i>Chief</i> .
<i>Federal Horticultural Board</i> -----	C. L. MARLATT, <i>Chairman</i> .
<i>Grain Futures Administration</i> -----	J. W. T. DUVEL, <i>Chief</i> .
<i>Food, Drug, and Insecticide Administration</i> -----	WALTER G. CAMPBELL, <i>Director of Regulatory Work, in Charge</i> .
<i>Office of Experiment Stations</i> -----	E. W. ALLEN, <i>Chief</i> .
<i>Office of Cooperative Extension Work</i> -----	C. B. SMITH, <i>Chief</i> .
<i>Library</i> -----	CLARIBEL R. BARNETT, <i>Librarian</i> .

This inventory is a contribution from

<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Office of Foreign Plant Introduction</i> -----	DAVID FAIRCHILD, <i>Senior Agricultural Explorer, in Charge</i> .

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
10 CENTS PER COPY

PLANT
PRIOR

Ass

Direc.

Directo.

Direc'

ir'

.

UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 84



Washington, D. C.

Issued November, 1927

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JULY 1 TO SEPTEMBER 30, 1925 (NOS. 64429 TO 65047)

CONTENTS

	Page
Introductory statement-----	1
Inventory-----	3
Index of common and scientific names-----	33

INTRODUCTORY STATEMENT

The Province of Manchuria, northeastern China, with an area of about 400,000 square miles, is largely an agricultural region. The winters are generally long and cold, with a minimum temperature sometimes as low as -40° F., while the summers are short and hot. Certain parts of the northwestern United States are subject to similar climatic conditions, and it is therefore of special interest that an agricultural explorer of this bureau, P. H. Dorsett, spent the greater part of the period covered by this inventory in Manchuria, with the result that large quantities of propagating material were collected. This material included such fruits as cherries, apricots, raspberries, and currants; also a number of native grasses and many miscellaneous vegetables and woody plants.

At the same time that Mr. Dorsett was in Manchuria, Doctor Fairchild was working along the northern coast of Africa and other parts of the Mediterranean countries, one of the oldest agricultural regions of the world. Among the most interesting plants sent in by Doctor Fairchild were those included in such leguminous genera as *Cytisus*, *Genista*, *Hedysarum*, *Lotus*, *Medicago*, *Scorpiurus*, and *Vicia*. Past experience has shown that plants from the Mediterranean region generally will thrive in the warmer sections of the Pacific States and parts of the Southwest, and many of the plants collected by Doctor Fairchild are promising, not only as forage but also as ornamentals. Among the latter were several species of iris, of value chiefly for breeding purposes, a native Moroccan grape hyacinth (*Muscari* sp., No. 64957), and two rockroses from Spain (*Cistus* spp., Nos. 65003 and 65004).

A specially selected collection of citrus-plant material (*Citrus* spp., Nos. 64603 to 64615) from the Botanic Garden at Buitenzorg, Java, was introduced through H. J. Webber, of the College of Agriculture at Berkeley, Calif. This included locally developed varieties and strains of oranges, shaddocks, and citrons, likely to prove of value to the citrus breeders of this country.

From the little-known region of South Australia has been received a unique collection of native shrubs of ornamental value (Nos. 64476 to 64497, 64798 to 64805). Most of these are previously unknown in American horticulture and have not been introduced previously by this office. Among the more interesting items may be mentioned *Balaustion pulcherrimum* (No. 64476), a prostrate myrtaceous shrub with rich red flowers an inch across, said to be

very rare in its native country; *Chorilaena quercifolia* (No. 64480), a tall rutaceous shrub, densely clothed with soft velvety hairs which assume a golden-yellow color; and *Melaleuca cordata* (No. 64802), a rigidly upright shrub with small round leaves and dense globular heads of small red flowers. A number of *Melaleucas* are already grown in the Pacific States, where their ability to grow rapidly and to resist drought, added to their ornamental quality, have made them popular.

The karoo bush (*Pentzia incana*, No. 64649) is held in high esteem in South Africa because it affords extensive pasturage for sheep. It is said to be able to withstand temperatures near zero Fahrenheit and is known to be very drought resistant. This introduction, therefore, should have special value for the Southwest on account of its possible value as a browse plant.

The botanical determinations of introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

ROLAND MCKEE, .

Acting Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., May 7, 1927.

INVENTORY¹

64429. CITRUS GRANDIS (L.) Osbeck. Rutaceae. Grapefruit.

From Los Banos, Philippine Islands. Budwood presented by J. E. Higgins, College of Agriculture. Received September 9, 1925.

In a letter of September 22, 1925, to this office, T. Ralph Robinson, of the Bureau of Plant Industry, states that this pummelo was noted by W. T. Swingle some years ago at Los Banos, where trees were being grown under C. A. No. 1427. The only name given it is "Better pummelo."

64430 and 64431. CHAENOMELES SUPERBA (Frahm) Rehder. Malaceae.

Shrubs growing in the permanent planting area at the Bell Plant Introduction Garden, Glenn Dale, Md. Numbered July, 1925, for convenience in distribution. Notes taken from the Journal of the Arnold Arboretum, volume 2, page 58.

64430. A handsome ornamental shrub which apparently is a hybrid between *Chaenomeles japonica* and *C. lagenaria*. It differs from *C. japonica* chiefly in the larger, but narrower, more sharply serrate, darker green leaves and in the larger deep-red flowers. From *C. lagenaria* it differs in the smaller leaves, the pubescent young branchlets, and in the more upright and compact habit.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

64430 and 64431—Continued.

64431. Forma *alba*. A form of the above with white flowers.

64432 to 64442.

From Rabat, Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received July 6, 1925. Notes by Doctor Fairchild.

64432. ARISARUM VULGARE Targ. Toz. Araceae.

A wild aroid which occurs in large quantities in the black gumbo soils around Kenitra. The medium-sized tubers, produced in this soil, are eaten by hogs.

64433. BIARUM BOVEI Blume. Araceae.

An aroidlike *Arisarum*, but producing larger tubers, found in black, sticky gumbo soil, about 60 miles north of Kenitra. R. Maire, of the University of Algiers, recommended it because it grows so abundantly and because the hogs are very fond of it.

64434. GLADIOLUS BYZANTINUS Mill. Iridaceae.

From the cork forest of Mamora, near Rabat. A slender delicate species with purple-red flowers and much more grass-like in habit than the cultivated forms generally. It might give delicacy of form to hybrids.

For introduction of seeds, see S. P. I. No. 64057.

64435 to 64439. IRIS spp. Iridaceae.

64435. IRIS ALATA Poir.

A low-growing species which grows wild in the wet gumbo soils about 66 miles north of Kenitra, Morocco. It is a purple-flowered species, and R. Maire tells me it is well worth growing in our borders for its large flowers which appear, in Algeria, during October and November. It produces numerous tubers on its roots.

For previous introduction, see S. P. I. No. 64190.

64436. IRIS FONTANESII Godr.

This species is very similar to *Iris tingitana*, but is much lighter in color. We found wild specimens nearly 5 feet high near Boulhaut, northern Morocco. Both of these species being bulbous, with their resting periods in the dry summer, they would be better adapted to southern California than to other iris-growing sections of the United States. These bulbs were collected by R. Maire.

64437. IRIS TINGITANA Boiss. and Reut.

Collected near Kenitra. A very tall, dark-purple species occurring wild in Tangier and along the roadsides throughout northern Morocco. At Kenitra the Arabs brought in armfuls of this iris, and under the electric light they appeared almost black.

64432 to 64442—Continued.

64438 and 64439. IRIS spp.

Two bulbous species, bearing blue flowers, found along the roadside between Meknes and Rabat.

64438. IRIS sp.

The plants of this species are 16 inches tall.

64439. IRIS sp.

A dwarf iris about 8 inches high.

64440. LEUCOJUM AUTUMNALE L. Amar-
yllidaceae.

A graceful white-flowered bulbous plant about a foot high which occurs in sandy soil in the forest of Mamora. It should be useful as a border plant in southern California.

64441. NARCISSUS VIRIDIFLORUS Schousb.
Amaryllidaceae.

These bulbs were collected from the edge of a diya, or rainy season pond. R. Maire informs me that the flowers are clear green and that the plant is well worthy of cultivation by amateurs.

64442. SCILLA PERUVIANA L. Liliaceae.

Collected in the forest of Mamora. A very attractive plant worthy of naturalizing in the dry sandy soils in the oak forests of southern California, where conditions are similar to those of the cork-oak forest of Mamora. Its large hemispherical violet-blue inflorescence ex-
hales a delicate odor of ether.

For previous introduction, see S. P. I. No. 63483.

64443. CARPOTROCHE BRASILIENSIS
(Raddi) Endl. Flacourtiaceae.

From Bello Horizonte, Minas Geraes, Brazil. Seeds presented by Alvaro da Silveira, Chefe da Comissão Geographica e Geologica de Minas Geraes. Received September 18, 1925.

This tree is known here in Minas Geraes as "canudo de pita" or "sapucainha." From the seeds is prepared an ointment used for skin affections and a sirup said to cure leprosy. (Silveira.)

64444 to 64447.

From Harbin, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 22, 1925. Notes by Mr. Dorsett.

64444. BETULA JAPONICA Siebold. Betu-
laceae. Birch.

No. 4001. August 12, 1925. Collected by B. W. Skvortzow from trees growing in the parks. This is one of the common trees in this region; so far we have not seen any very large trees.

For previous introduction, see S. P. I. No. 39489.

64445. PRUNUS JAPONICA Thunb. Amyg-
dalaceae. Cherry.

No. 3909. August 8, 1925. Obtained from a plant in B. W. Skvortzow's garden. The small bright-red fruits, appearing at this time of the year, make this an attractive ornamental shrub. The fruit is not very good to eat when fresh, but is used for making jams and preserves.

For previous introduction, see S. P. I. No. 60983.

64444 to 64447—Continued.

64446. PRUNUS sp. Amygdalaceae. Plum.

No. 3918. August 8, 1925. From B. W. Skvortzow's garden. This is the common yellow plum which grows here; Mr. Skvortzow thinks it is not a native species.

64447. ROSA sp. Rosaceae. Rose.

No. 3862. August 4, 1925. Rose hips obtained from plants growing in the new Russian cemetery.

64448. PRUNUS sp. Amygdalaceae.
Cherry.

From Choni, Kansu, China. Seeds collected by J. F. Rock, Arnold Arboretum, Jamaica Plain, Mass. Received September 28, 1925.

Nos. 12432 and 12527. July, 1925. A bush cherry which grows wild on the mountains around here; it is 6 to 10 feet high, occasionally higher. It has dark-green glabrous leaves and long pink tubular flowers. (Rock.)

64449. ALLIUM CEPA L. Liliaceae.
Onion.

From Palma, Majorca, Balearic Islands. Seeds purchased by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September 30, 1925.

No. 202. August 23, 1925. The giant flat onion. A white variety which is an amazing onion as seen in Iviza, for it measures 6 inches in diameter and is only 2½ inches thick. The special manner of using it, which we found very good, is to boil the onion intact and serve singly on a plate with a dressing of oil and vinegar, such as is made for lettuce. (Fairchild.)

64450. GOSSYPIMUM HIRSUTUM L. Mal-
vaceae. Cotton.

From Tucuman, Argentina. Seeds presented by W. E. Cross, director, Tucuman Experiment Station. Received July 28, 1925.

Selected seed which is the result of a few years' selection from the conglomerate generally cultivated in this country. This cotton is known as the Chaco variety. (G. L. Fawcett, Acting Director, Tucuman Experiment Station.)

64451 to 64475.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received July 22, 1925.

64451. AMARANTHUS PANICULATUS L.
Amaranthaceae.

No. 3138. June 1, 1925. Hsi fau ku or yu tze ku (fish-egg millet). This seed was procured from a farmer about 1½ miles from Ertientzientze. The Chinese women of this vicinity pop the seed in a small iron ladle which is heated over a charcoal fire. (Dorsett.)

64452. ANEMONE CHINENSIS Bunge. Ra-
nunculaceae.

No. 3100. Ertientzientze. June 1, 1925. A rather attractive herbaceous plant, which grows on the hillsides on more or less level land. The flower stems are 18 to 20 inches high, and the flower or seed heads are similar to those of the dandelion.

64451 to 64475—Continued.

64453. CAREX sp. Cyperaceae. Sedge.

No. 3301. Harbin. June 14, 1925. Found in exposed dry places in the new Russian cemetery.

64454. FALCATA JAPONICA Oliver. Fabaceae.

No. 3131. June 1, 1925. A small leguminous vine growing in thick shrubby places on the hills about Ertientientze.

64455 and 64456. HIEROCHLOE GLABRA Trin. Poaceae. Grass.

64455. No. 3016. Harbin. May 23, 1925. Collected from plants growing in one of the small parks just at the top of the hill, en route from Fuchiatien to New Town.

64456. No. 3020. Harbin. May 24, 1925. Collected in the new Russian cemetery. This grass is peculiar in that the fruiting stalk contains practically no leaves. It is not a bunch grass and apparently spreads not only by seeds but through slender underground shoots.

64457 and 64458. LONICERA PRAEFLORENS Batal. Caprifoliaceae. Honeysuckle.

64457. No. 3083. Ertientientze. June 1, 1925. An edible-fruited honeysuckle which grows in the shade of good-sized trees. The fruits, about the size of peas, are bright red.

64458. No. 3266. Hungtaohotze. June 10, 1925. Obtained from plants growing in rather open timberland on the mountain ridges in one of the V. F. Kavolsky forest concessions. We ate quite a few of these fruits and can say that while they are not excellent we have eaten worse.

64459 and 64460. PANICUM MILIACEUM L. Poaceae. Proso.

64459. No. 3137. June 1, 1925. A glutinous red-seeded variety procured from a Chinese farmer about 1½ miles to the northeast of Ertientientze.

64460. No. 3140. June 1, 1925. A very dark, almost black shiny-seeded variety obtained from a Chinese farmer about 1½ miles northeast of Ertientientze.

64461. POA sp. Poaceae. Grass.

No. 3299. Harbin. June 14, 1925. Collected in a dry exposed place in the new Russian cemetery.

64462. PRUNUS sp. Amygdalaceae. Cherry.

No. 3174. Harbin. June 4, 1925. Yen tai ying tao (Chefoo cherry) obtained in the market and said to have been shipped in from Chefoo. The seeds are rather large and appear to be somewhat different from the ordinary cherry.

64463 to 64472. ULMUS spp. Ulmaceae. Elm.

64463. ULMUS MACROCARPA Hance.

No. 3156. Ertientientze. June 1, 1925.

64464 and 64465. ULMUS PUMILA L.

64464. No. 2986. May 20, 1925. Collected from trees, exposed to drought and severe cold, growing

64451 to 64475—Continued.

on a sandy knoll a mile or so to the north of Harbin, in bottomland across the Sungari River.

64465. No. 2995. May 22, 1925. Obtained from trees growing in the old Russian cemetery, located about two blocks east of the American legation. These trees are better shaped than the others.

64466 and 64467. ULMUS JAPONICA Sarg.

64466. No. 3072. May 31, 1925. Obtained from a tree located on the southwestern slope of the hill near Ertientientze. The leaves of this tree are more or less rough, and the fruits are small.

64467. No. 3127. Ertientientze. June 1, 1925.

64468 to 64471. ULMUS PUMILA L.

64468. No. 3128. Ertientientze. June 1, 1925. An attractive tree with pendulous branches.

64469. No. 3129. June 1, 1925. Collected on the hillside northeast of Ertientientze.

64470. No. 3132. Ertientientze. June 1, 1925. More or less cork was found on the branches of this tree.

64471. No. 3267. June 10, 1925. Hsiao yueh hung yü shu (small-leaved red elm). This variety was obtained in the river bottom in the V. F. Kavolsky forest concession about 20 miles from Hungtaohotze.

64472. ULMUS LACINIATA (Trautv.) Mayr.

No. 3065. May 31, 1925. From a small tree growing on a northern mountain slope to the northeast of Ertientientze. This species has rather long fruits and large leaves. The tree is said to be rather large, but so far we have seen only one small one.

64473 to 64475. VIOLA spp. Violaceae. Violet.

64473. VIOLA VARIEGATA Fisch.

No. 3105. Ertientientze. June 1, 1925. A species with cyclamenlike leaves, white along the veins, and light purple flowers.

64474. VIOLA COLLINA Bess.

No. 3106. Ertientientze. June 1, 1925. The large light-green leaves are produced on long stems; the stems and leaves are hairy.

64475. VIOLA sp.

No. 3130. June 1, 1925. A wild Chinese violet found on the hillsides to the northeast of Ertientientze.

64476 to 64497.

From Blackwood, South Australia. Seeds presented by W. L. Wheeler, Eden Hills, through Edwin Ashby, "Wittunga." Received July 31, 1925. Notes by Mr. Wheeler.

64476. BALAUSTION PULCHERRIMUM Hook. Myrtaceae.

A low prostrate shrub, native to Western Australia, with a short thick trunk, narrow rigid leaves, and large

64476 to 64497—Continued.

solitary rich-red flowers about an inch across. It is said to be very rare in its native country.

64477. *BOSSIAEA* sp. Fabaceae.

A shrub 6 to 15 feet high; very ornamental.

64478. *CALOTHAMNUS CHRYSANTHERUS* F. Muell. Myrtaceae.

A rather small shrub, native to Western Australia, described by Bentham (Flora Australiensis, vol. 3) as erect, with thick corky branches and thick, terete, sharp-pointed leaves 2 to 4 inches long. The chief beauty of the shrub lies in the bundles of deep-red stamens which protrude an inch or more from the yellowish flowers.

64479. *CASSIA PLEUROCARPA* F. Muell. Caesalpiniaceae.

An Australian cassia, which, according to Bentham (Flora Australiensis, vol. 2) is a tall, erect shrub with rather thick linear leaflets and loose clusters of yellow flowers, the individual flowers being about three-fourths of an inch wide.

64480. *CHORILAENA QUERCIFOLIA* Endl. Rutaceae.

The branches of this tall Australian shrub are densely clothed with soft velvety hairs which often assume a golden-yellow color, according to Bentham (Flora Australiensis, vol. 1). The leathery oval leaves are about 3 inches long, densely covered below with velvety hairs.

64481. *CROWEA ANGUSTIFOLIA* Turcz. Rutaceae.

According to Bentham (Flora Australiensis, vol. 1) this low shrub from Western Australia has small, very narrow leaves and rather large red or white flowers about half an inch long, either solitary or in pairs.

64482. *CYANOSTEGIA ANGUSTIFOLIA* Turcz. Verbenaceae.

An erect shrub, native to Western Australia, which according to Bentham (Flora Australiensis, vol. 5) has small linear leaves and loose pyramidal panicles of small purple flowers.

64483. *HAKEA LAURINA* R. Br. Proteaceae.

A tall Australian shrub, 30 feet or less high, remarkable for its showy crimson flowers. These are in globular heads about 2 inches in diameter, from which the numerous golden-yellow styles protrude an inch or so in all directions.

64484 and 64485. *HAKEA MULTILINEATA* Meism. Proteaceae.

64484. This tall Australian shrub is closely related to the preceding (*Hakea laurina*), differing only in the venation of the leaves, the oblong shape of the flower cluster, and other minor characters.

64485. Variety *rhynchocarpa*, which has beaked fruits.

64486. *HELIPTERUM RUBELLUM* (A. Gray) Benth. Asteraceae.

An annual composite from Western Australia, with solitary heads of red flowers. Several species of this genus

64476 to 64497—Continued.

have become popular as "everlastings." This plant is about 8 inches high, with slender hairy stems and narrow alternate leaves.

64487. *HOVEA ELLIPTICA* (J. E. Smith) DC. Fabaceae.

A leguminous shrub, described by Bentham (Flora Australiensis, vol. 2) as up to 10 feet in height, with slender branches, small, narrowly oval leaves, and short axillary clusters of small blue flowers. Native to Western Australia.

64488. *KUNZEA SERICEA* (Labill.) Turcz. Myrtaceae.

A tall Australian shrub described by Bentham (Flora Australiensis, vol. 3) as having rigid, tortuous branches and silvery white, very stiff leaves less than an inch in length. The yellowish flowers are either solitary or in terminal clusters.

64489. *LEUCOPOGON VERTICILLATUS* R. Br. Epacridaceae.

The leaves of this Australian shrub are crowded at the ends of the branches in such a manner as to appear verticillate, according to Bentham (Flora Australiensis, vol. 4). The shrub is tall and erect, and the small reddish flowers are in slender spikes.

64490. *MARIANTHUS ERUBESCENS* Putterl. Pittosporaceae.

A perennial twining vine with red flowers, collected in Merreden, Western Australia.

64491. *MELALEUCA VIOLACEA* Schauer. Myrtaceae.

A handsome shrub, native to Western Australia, which according to Bentham (Flora Australiensis, vol. 3) is low and spreading in habit, with rigid small oval leaves and terminal heads or small clusters of purple-red flowers.

64492. *MELALEUCA* sp. Myrtaceae.

A shrub 4 feet high.

64493. *PHEBALIUM TUBERCULOSUM* (F. Muell.) Benth. Rutaceae.

A yellow-flowered, narrow-leaved evergreen shrub from Western Australia which might be suitable for coolhouse culture in the northern United States, or perhaps for growing out of doors in the south. The plant becomes about 4 feet high and blooms early in the spring.

64494. *PITYRODIA TECKIANA* (F. Muell.) E. Pritz. Verbenaceae.

A low shrub, about 2½ feet high, clothed with cottony wool and thickly covered with sessile linear leaves. The green and yellow flowers are solitary or in clusters. Native to Victoria, Australia.

64495. *SIDA CALYXHYMENIA* J. Gay. Malvaceae.

According to Bentham (Flora Australiensis, vol. 1), this is an erect shrub, entirely covered with a whitish pubescence, with yellow flowers, solitary or in twos. Native to southern and Western Australia.

64496. *THOMASIA BRACHYSTACHYS* Turcz. Sterculiaceae.

A tall hairy shrub from Western Australia, which is described by Ben-

64476 to 64497—Continued.

tham (Flora Australiensis, vol. 1) as having heart-shaped leaves and dense clusters of small white flowers.

64497. TRYMALIUM BILLARDIERI Fenzl.
Rhamnaceae.

A tall shrub, about 12 feet high, with broadly oval leaves and loose clusters of greenish-yellow flowers. Native to Western Australia.

64498. GOSSYPIUM BARBADENSE L. Malvaceae. **Cotton.**

From Nassau, Bahamas. Seeds presented by F. C. M. Albury, secretary, Board of Agriculture. Received August 5, 1925.

A sample of this cotton was recently sent to England and the following report was received: Color good, staple $1\frac{3}{16}$ inches long, strong, rather irregular in length, and rougher than American. (Albury.)

64499 to 64501. COIX LACRYMA-JOBI MA-YUEN (Rom.) Stapf. Poaceae.

Adlay.

From Manila, P. I. Seeds presented by S. Youngberg, acting director, Bureau of Agriculture. Received August 7, 1925.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64499. Dark-brown ma-yuen.

64500. Light-brown ma-yuen.

64501. White ma-yuen.

64502. GOSSYPIUM sp. Malvaceae.

Kidney cotton.

From San Juan, P. R. Seeds presented by C. A. Figuerva, assistant agricultural adviser, Department of Agriculture and Labor. Received August 12, 1925.

Locally grown seeds.

64503 and 64504.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received July 17, 1925. Notes by Mr. Dorsett.

64503. ARACHIS HYPOGAEA L. Fabaceae.
Peanut.

No. 3722. Harbin. July 18, 1925. This variety, the smallest we have seen since arriving here, is said to have been shipped in from Kalgan, Chihli Province.

64504. ULMUS PUMILA L. Ulmaceae.
Elm.

No. 3395. Tsitsihar. June 22, 1925. This may prove to be more cold resistant in the northern United States than the type now growing there.

64505 and 64506. FRAGARIA spp. Rosaceae.
Strawberry.

From Dundas, New South Wales. Plants presented by Herbert J. Rumsey. Received July 31, 1925. Notes by Mr. Rumsey.

Varieties not offered by American nurserymen.

64505 and 64506—Continued.

64505. FRAGARIA sp.

Fendalcino (Etters). This is a solid-fruited variety with very robust foliage. The berries, deep red and of fine size, are produced in regular crops well into the summer. The plants stand drought well, and this promises to be a magnificent commercial variety as well as one for the home garden.

64506. FRAGARIA sp.

Illawarra. This variety, as the name implies, is a local seedling. It is said to be a cross between an American variety called Gandy, which it somewhat resembles, and Cresswell's Seedling. The fruit of Illawarra is particularly handsome, its prominent seeds studding the enormous fruits like jewels. The large bright-green cap makes it very handsome, and it is no uncommon event to find from one to six large fruits in a bunch, each weighing from 1 to 2 ounces.

64507. SACCHARUM OFFICINARUM L. Poaceae. **Sugar cane.**

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortún, director, Estación Experimental Agronómica. Received September 22, 1925.

D. 247.

A locally grown strain.

64508 and 64509.

From Jalisco, Chiapas, Mexico. Seeds presented by C. A. Purpus, Zacuapam, Huatusco, Vera Cruz, Mexico. Received August 7, 1925.

64508. ANNONA MURICATA L. Annonaceae.
Soursop.

A local variety.

64509. GOSSYPIUM sp. Malvaceae. **Cotton.**

A variety grown in Oaxaca, Mexico.

64510. MIMUSOPS ZEYHERI Sond. Sapotaceae.

From Pretoria, Transvaal, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, division of botany. Received August 12, 1925.

Moepel.—This magnificent shade tree is evergreen and bears an edible fruit with which H. L. Shantz was very much taken when he was last here. It grows along the western slopes of the Magaliesburg Range and extends from Pretoria westward to Zeerust. (Pole Evans.)

According to Harvey and Zonder (Flora Capensis, vol. 4, sec. 1, p. 441), this tree has long-stemmed narrow leaves about 4 inches long, and edible drupes, about an inch long, with sweet-flavored flesh.

For previous introduction, see S. P. I. No. 50165.

64511. CANAVALI PLAGIOSPERMA Piper. Fabaceae.

From Port of Spain, Trinidad, British West Indies. Seeds presented by W. G. Freeman, director, Department of Agriculture. Received August 14, 1925.

This plant, known here under the name of *Canavalia gladiata*, is a weak climber

and is usually grown as a bush bean. It appears to be intermediate between *C. gladiata* and *C. ensiformis*. (Freeman.)

For previous introduction, see S. P. I. No. 52861.

64512. CROTALARIA sp. Fabaceae.

From Southern Provinces, Nigeria, Africa. Seeds presented by D. H. Urquhart, superintendent of agriculture, Umuahia Agricultural Station. Received August 19, 1925.

Introduced for trial as a cover crop in the United States.

64513. HELIANTHUS TUBEROSUS L. Asteraceae. Jerusalem artichoke.

From Auckland, New Zealand. Tubers purchased from Arthur Yates & Co. Received August 19, 1926.

Locally grown tubers.

64514 to 64517. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Rio de Janeiro, Brazil. Cuttings presented by Antonio Carlos Pentana, director, General Experiment Station, Campos. Received August 25, 1925.

Locally grown strains.

64514. 2443-C.

64516. 4473-C.

64515. 3100-C.

64517. 4475-C.

64518. DAHLIA sp. Asteraceae.

From Cayoacan, D. F., Mexico. Cuttings presented by Mrs. Zelia Nuttall. Received February 14, 1925. Numbered July, 1925.

A giant or tree dahlia, up to 20 feet in height, with great panicles of single rosy mauve blossoms. (Nuttall.)

The tree dahlias are native to tropical America and are tropical in cultural requirements.

64519. GARCINIA MANGOSTANA L. Clusiaceae. Mangosteen.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received August 27, 1925.

Mangosteen seeds introduced for testing in the tropical dependencies of the United States.

For previous introduction, see S. P. I. No. 61301.

64520 and 64521.

From San Remo, Italy. Seeds presented by Mario Calvino, Stazione Sperimentale di Floricoltura. Received August 19, 1925. Notes by Doctor Calvino.

64520. LOTUS sp. Fabaceae.

A very rare leguminous plant, about 1 meter in height, suitable for growing in wet soil.

64521. PSORALEA BITUMINOSA L. Fabaceae.

A leguminous perennial which thrives in dry calcareous soil. It has blue flowers and is native to the Mediterranean countries.

64522 to 64526.

From Kotgarh, Simla Hills, Punjab, India. Seeds collected by S. E. Stokes and Richard B. Gregg. Received August 20, 1925. Notes by Mr. Gregg.

64522. ELEUSINE CORACANA (L.) Gaertn. Poaceae. Ragi.

July 4, 1925. Local native name, Koda.

64523. HORDEUM VULGARE PALLIDUM Se- ringe. Poaceae. Six-rowed barley.

July 3, 1925. A bearded barley.

64524. HORDEUM sp. Poaceae. Naked barley.

July 3, 1925. Beardless barley.

64525. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

July 15, 1925. Red winter wheat which ripened about June 1, 1925. These seeds are the best kernels from 17 selected ears.

64526. ZEA MAYS L. Poaceae. Corn.

June 20, 1925. *Maire*, a relatively quick-ripening variety.

64527 to 64530.

From Westport, West Coast, New Zealand. Seeds presented by D. McLellan, Sergeants Hill. Received August 20, 1925.

64527. DANTHONIA PILOSA R. Br. Poaceae. Grass.

In Australia this is considered an excellent pasture grass; it seeds freely and gives good fodder in early spring.

For previous introduction, see S. P. I. No. 49017.

64528. HOLCUS SORGHUM SUDANENSIS (Piper) Hitchc. Poaceae. Sudan grass.

A local strain.

For previous introduction, see S. P. I. No. 50781.

64529. POA sp. Poaceae. Grass.

64530. TRIFOLIUM SUBTERRANEUM L. Fabaceae. Subterranean clover.

Experiments carried on by the Office of Forage-Crop Investigations and by State experiment stations in cooperation with this department during 1921 and 1922 have established the fact that this clover will survive the winter as far north as Knoxville, Tenn. At this station, as well as several others, the plants from fall seeding made some growth in the fall, held their own during the winter, and made a rapid and heavy growth early in the spring of 1922. This clover made a strong growth on sandy land at McNeill, Miss.; in this case finely ground bone meal had been used as fertilizer. Preliminary trials have been encouraging, and the department is making further tests. (A. J. Pieters, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 55707.

64531 to 64535. CROTALARIA spp. Fabaceae.

From Nairobi, Kenya Colony, British East Africa. Seeds presented by J. McDonald, Scott Agricultural Laboratories.

64531 to 64535—Continued.

Received August 22, 1925. Notes by Mr. McDonald.

A collection of crotalarias introduced for testing as cover-crop plants in the southern United States.

64531. CROTALARIA JUNCEA L.

Sunn hemp.

No. 1. An erect yellow-flowered annual, 4 to 5 feet high, native to tropical Asia generally. It is cultivated in many places in India and also in northern Ceylon for the sake of the strong and useful fiber obtained from the stems. This fiber is used in India for making coarse canvas, cordage, and fishing nets, and an average yield is about 640 pounds an acre. A light rich soil is considered best for growing this plant, although with cultivation it may be grown on almost any soil.

For previous introduction, see S. P. I. No. 44124.

64532. CROTALARIA INTERMEDIA Kotschy.

No. 2. From the Scott Agricultural Laboratories.

64533. CROTALARIA sp.

No. 3. Collected on a roadside in the forest, Mile 8, Londiani, Eldoret Road.

64534. CROTALARIA sp.

No. 4. Collected in a rather dry situation along a roadside.

64535. CROTALARIA DILLONIANA Baker.

No. 5. From Muhoroni. A low erect herbaceous plant with pale-green trifoliate leaves and purple-striped yellow flowers in dense terminal racemes up to 6 inches in length.

64536. COMBRETUM COCCINEUM (Sonner.) Lam. Combretaceae.

From Addis Ababa, Abyssinia. Seeds presented by Charlotte Lambie, through H. V. Harlan, Bureau of Plant Industry. Received August 31, 1925.

A handsome woody climber from Madagascar with narrow evergreen leaves and small but brilliant-red flowers; these are in loose spikes or panicles and are characterized by long exserted stamens. It should be tried in the southern end of Florida.

64537. CUPHEA BALSAMONA Cham. and Schlecht. Lythraceae.

From Bahia, Brazil. Seeds presented by Rev. P. Camillo Torrend, Collegio Antonio Vieira. Received August 25, 1925.

According to an article published in Chacaras E Quintaes (vol. 31, p. 426, May 15, 1925) by Father Torrend, this plant has acquired an excellent reputation in southern Brazil as forage. Even when other fodder plants are abundant, cattle are said to consume with avidity the "barba de San Pedro," as it is called.

64538. VITIS sp. Vitaceae.

From Ambato, Ecuador. Cuttings presented by Augusto H. Martinez, Escuela de Agricultura. Received September 9, 1925.

When at Ambato in February of this year [1925] I saw this grape growing in the quinta La Liria, belonging to the Martinez family. Augusto Martinez informed me that this plant was brought to Ambato

from the region of Santo Domingo de los Colorados, where it grows wild. Due probably to the cool climate of Ambato, as compared with that of Santo Domingo (which lies at a low elevation on the western slope of the Andes), the plant fails to produce fruit at La Liria, but it vegetates luxuriantly and flowers profusely.

In general appearance the plant resembles *Vitis caribaea*, yet I believe it to be distinct from that species. Don Augusto says that it bears an edible fruit of good quality and that it may prove to be of value in connection with the development of new grapes for tropical regions. It should be planted in Florida and the West Indies for use in breeding work. (Wilson Popenoe, Bureau of Plant Industry.)

64539. FRAGARIA sp. Rosaceae.

Strawberry.

From Hingan, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received August 25, 1925.

No. 3583. July 3, 1925. A fruit having a very pleasant odor. (Dorsett.)

64540. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae. Common wheat.

From Angers, France. Seeds presented by F. R. Godineau. Received September 14, 1925.

This variety is the Early of Milly, which is a selection of Gentile Rosse. It has a rougher straw and a longer spike than the latter and is more accustomed to the cold weather, having been grown in the north of France for several years. (Godineau.)

64541. FUNTUMIA ELASTICA (Preuss) Stapf. Apocynaceae.

Lagos rubber tree.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received September 19, 1925.

A large forest tree which is very widely distributed throughout central Africa and is the source of the Lagos rubber of commerce.

For previous introduction, see S. P. I. No. 61491.

64542. HEVEA BRASILIENSIS (H. B. K.) Muell. Arg. Euphorbiaceae.

From Bayeux, Haiti. Seeds presented by L. G. Polhamus, Bureau of Plant Industry. Received September 23, 1925.

The Para rubber tree, native to Brazil and now extensively cultivated in the East Indies, has always ranked as the principal and most important rubber-producing tree in the world.

In 1922 the world's production of rubber amounted to 379,200 tons, of which 354,980 tons, or 93 per cent, came from this source. (Alfred Keys, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 57943.

64543 to 64546. GOSSYPIUM spp. Malvaceae. Cotton.

From Papeete, Tahiti, Society Islands. Seeds presented by Père Emmanuel Rougier. Received September 10, 1925. Notes by Père Rougier.

Locally developed varieties.

64543 to 64546—Continued.

64543 and 64544. *GOSSYPIUM BARBADENSE* L.

64543. *Matafffi*. Introduced here recently as Algerian cotton.

64544. *Tahiti* cotton, which is probably a hybrid of several species introduced into this colony. Our agricultural expert, Mr. Brugiroux, thinks it is the variety best suited for our needs.

64545. *GOSSYPIUM* sp.

Caledonian. From New Caledonia and New Hebrides; recently introduced.

64546. *GOSSYPIUM* sp. **Kidney cotton.**

Taone, which is probably a hybrid of several species introduced into this colony.

64547. *CAPSICUM ANNUUM* L. Solanaceae. **Red pepper.**

From Mahon, Minorca, Balearic Islands. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September 30, 1925.

No. 218. August 24, 1925. A superb variety discovered by Mr. Armour in the little market at Mahon. It is 4 inches long, 2 inches in diameter, and of a conical shape almost identical with that of the *Hachiya* variety of Japanese persimmon. The color is exceptionally clear and attractive, and the flavor is excellent. (*Fairchild*.)

64548. *ILLECEBRUM VERTICILLATUM* L. Silenaceae.

From Rabat, Morocco. Roots collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 29, 1925. Numbered July, 1925.

A tall graceful plant which is a perennial occurring in the cork forests around Boulhaut, northern Morocco. The pendent white flowers are produced in April, and the bulbs are subjected to six months of drought in the sandy-argillaceous soils of this region. These roots were found by R. Maire near an outcropping of rocks called Socrat en Nemra. (*Fairchild*.)

64549. *ASPARAGUS ALTISSIMUS* Munby. Convallariaceae.

From Marrakesh, Morocco. Seeds presented by Auguste Tornezy, inspector of agriculture, Marrakesh, through David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September 30, 1925.

No. 187. June 1, 1925. A tall-growing, slender species, probably from the Great Atlas Mountains, which may prove of value as a greenhouse plant for its attractive sprays. (*Fairchild*.)

64550 to 64552.

From Kotgarh, Simla Hills, Punjab, India. Seeds collected by S. E. Stokes and Richard B. Gregg. Received July 18, 1925. Notes by Mr. Gregg.

64550. *BRASSICA* sp. Brassicaceae.

June 4, 1925. *Baraf Gobi* (snow cabbage) is planted the end of June, during the early rains, and matures in the late

64550 to 64552—Continued.

autumn. It is not cut and gathered like our cabbage, but is left in the field, and the leaves are broken off and used as needed, as are those of spinach and chard. This cabbage remains green all during the snows, and only attains its best flavor after the first frosts and snows. It therefore furnishes fresh greens during the winter, even as late as April.

64551. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**

June 2, 1925. *Kotgarh*, red-bearded winter wheat, is planted in this region during September and October and ripens during the latter part of May. It has a strong stem, does not lodge easily, and endures heavy snows. It is especially liked because it does not tend to sprout during the heavy rains which are apt to occur during the harvest season.

64552. *ZEA MAYS* L. Poaceae. **Corn.**

June 8, 1925. This variety of maize ripens very quickly compared with most other varieties, as it is planted after the other corn has gotten a good start, and ripens about the same time. It is planted about the first week in June and ripens in about 90 days. Compared with the American corn, the kernels are small.

64553 and 64554. *HEDYSARUM* spp. Fabaceae.

From Oran, Algeria. Seeds presented by Herbiere A. Faure. Received July 20, 1925.

64553. *HEDYSARUM CAPITATUM* Desf.

An annual ascending leguminous plant with purple flowers. Native to the Mediterranean countries.

64554. *HEDYSARUM PALLIDUM* Desf.

A perennial procumbent leguminous plant, native to northern Africa, where it thrives on steep hillsides.

64555. *ARUNDINARIA ALPINA* Schum. Poaceae. **Bamboo.**

From Nairobi, Kenya Colony, British East Africa. Seeds presented by the conservator of forests, Forest Department. Received July 17, 1925.

A bamboo with narrow leaves about 3 inches long and less than half an inch wide and large lax panicles composed of small spikelets a little more than an inch in length.

64556. *PROSOPIS NANDUBEY* Lorentz. Mimosaceae.

From Montevideo, Uruguay. Seeds presented by Luis Guillot, director técnico, Dirección General de Paseos Públicos. Received July 25, 1925.

A Uruguayan tree which, according to Archavaleta (*Flora Uruguaya*, vol. 1, p. 419), is considered valuable timber because of the great durability of the wood which is used for various industrial purposes. The numerous small flowers appear in the spring, and the sickle-shaped pods inclose pulp of acid flavor.

For previous introduction, see S. P. I. No. 57936.

64557. OMPHALEA OLEIFERA Hemsl.
Euphorbiaceae.

From Moyuta, Guatemala. Seeds presented by Francisco Morcucci. Received July 27, 1925.

This Central American tree, known in Guatemala as palo de queso and hoja de queso, is called tambor in Salvador, according to Standley (Pharmaceutical Journal, vol. 110, p. 489). The main value of the tree lies in the fruit and seeds. From the latter is obtained an oil with the same properties as castor oil, but with an agreeable flavor. This oil is also used for making soap, for illumination, and in cooking. The immature fruits when boiled are said to have an excellent flavor, and the ripe seeds are eaten as a delicacy.

64558. VIROLA GUATEMALENSIS (Hemsl.) Warburg. Myristicaceae.

From San Antonio Sachitepequez, Guatemala. Seeds presented by Jorge G. Salas, director general de agricultura, City of Guatemala. Received July 27, 1925.

A Central American tree which, according to O. Warburg (Monographie der Myristicaceen, p. 220), bears fruits which yield a valuable oil. The natives of Guatemala collect the oil for making soap and candles.

64559. PSIDIUM GUAJAVA L. Myrtaceae. Guava.

From Victoria, Cameroon, West Africa. Seeds presented by F. J. Evans. Received July 27, 1925.

An exceptionally good white variety. (Evans.)

64560 to 64565.

From Kenitra, Morocco. Seeds presented by Gaston Durand, inspecteur d'agriculture. Received July 27, 1925.

64560. ANCHUSA UNDULATA L. Boraginaceae.

A hardy perennial, about 2 feet high, with panicle clusters of purple flowers. It is native to Spain and thrives best in sunny locations.

64561. LAVATERA sp. Malvaceae.

A number of lavateras have very showy flowers, sometimes 2 to 4 inches across, and variously colored. They are either herbaceous or shrubby and mostly native to the Mediterranean countries.

64562. MALCOMIA LITTOREA Ait. Brassicaceae.

An annual branching plant, a foot or less in height, with large showy pink-purple flowers in loose racemes. It is native to the western Mediterranean countries.

64563. MALOPE sp. Malvaceae.

These are showy annuals belonging to the mallow family, all native to the Mediterranean region. In height they range from 1 to 3 feet, and the flowers are violet, pink, or white.

64564. TRIFOLIUM sp. Fabaceae. Clover.**64565. IRIS TINGITANA Boiss. and Reut.** Iridaceae.

An iris originally discovered in the vicinity of Tangiers, Morocco, whence it was introduced into cultivation several

64560 to 64565—Continued.

years ago. The stout stems, about 2 feet high, are one or two-headed, and the flowers are borne in clusters of two or three. The standards are bright lilac, about 3 inches long, and the falls are flushed with yellow in the center. Introduced for iris breeders.

64566. BAUHINIA ESCULENTA Burchell. Caesalpinaceae.

From Kirstenbosch, Cape Province, Union of South Africa. Seeds presented by R. H. Compton, director, National Botanic Garden. Received July 27, 1925.

The "Tamani berry" or "Gemsbok bean," native to South Africa, is described in the Journal of the Department of Agriculture of the Union of South Africa (vol. 8, p. 613) as a leguminous plant whose seeds form the staple diet of the Kalahari bushmen; animals are also very fond of the seeds, which are excellent for fattening. The seed kernels are rich in protein and oil, the latter resembling cottonseed oil.

64567. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortún, director, Estación Experimental Agronómica, through E. W. Brandes, Bureau of Plant Industry. Received August 7, 1925.

A locally grown strain.

64568 to 64586.

From China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received July 28, 1925. Notes by Mr. McClure.

64568. MYRICA RUBRA Sieb. and Zucc. Myricaceae.

No. 168. Shuisaits'uen, Lohkongtung. May 23, 1925. *Yeung mui*. This is a very handsome tree, averaging 5 or 6 meters in height, with dark-green glossy foliage which sets off to fine advantage the bright-red to pink fruits. The fruits are globular in shape and quite acid in flavor. Owing to their fragility and peculiar structure they do not ship well, but small leafy branches distributed among them as they are placed in the baskets are said to protect them somewhat. The fresh fruits are too soft to appeal to the Chinese palate, and they are used for the most part in much the same manner as the *Tsing mui* (*Prunus mume*), that is, salted and dried.

64569 to 64582. PRUNUS MUME Sieb. and Zucc. Amygdalaceae. Japanese apricot.

Tsing mui. The fruits of this group are so sour that they are rarely eaten fresh. The most common method of treatment is to place them in large wooden vats having a capacity of nearly 400 cubic feet, with salt at the rate of 1.3 pounds of salt to 10 pounds of fruit. By means of mats and stones the fruits are weighted down and kept in this condition for 10 days or so. They are then spread out on bamboo trays and dried in the sun. When dry they are white with an incrustation of salt. They may be kept indefinitely in this condition so long as they are kept dry. They are used by confectioners to make a great variety of confections, most of which have as their chief flavoring principles licorice and saccharine.

64568 to 64586—Continued.

The following material was obtained during the middle of May, 1925, from trees growing in the Canton Christian College orchards:

64569. No. 152. *Taai wat tsing mui*.
 64570. No. 153. *Ngoh shue mui*.
 64571. No. 154. *Waang wat mui*.
 64572. No. 155. *Taai mui*. This variety is distinguished from the other members of the tsing mui group by the following characteristics: It has larger, almost circular leaves with long acuminate tips, the fruits are larger than the average size, and the branches are fewer and stouter.
 64573. No. 156. This variety is said to be identical with *taai mui*, No. 155 [S. P. I. No. 64572].
 64574. No. 157. *Wong mui*. I find that on the markets the name wong mui (yellow mui) is applied only to those that have turned yellow in ripening.
 64575. No. 158. *Taai wat tsing mui*. The same as No. 152 [S. P. I. No. 64569], but from trees with a different ancestry.
 64576. No. 159. *Ngoh shue mui*. This material is the same as No. 153 [S. P. I. No. 64570], but from trees with a different ancestry.
 64577. No. 160. *Waang wat mui*. The same as No. 154 [S. P. I. No. 64571], but from trees having a different ancestry.
 64578. No. 161. *Cha ip mui*. This member of the tsing mui group is said to be distinguished from the other members by having slightly thinner skin, for which reason it bruises more easily in transit.
 64579. No. 162. *Waang wat mui*. The same as Nos. 154 and 160 [S. P. I. Nos. 64571 and 64577], but it is from trees with a different ancestry.
 64580. No. 163. *Paak uen 'tau mui*. The same as No. 156 [S. P. I. No. 64573], but from trees with a different ancestry.
 64581. No. 164. *Taai wat tsing mui*. The same as Nos. 152 and 158 [S. P. I. Nos. 64569 and 64575], but from trees having a different ancestry.
 64582. No. 165. *Hang mui chi*.
 64583. *PRUNUS SALICINA* Lindl. Amygdalaceae.
 No. 167. May, 23, 1925. *Hang mui*. Purchased from Mr. Chung Ch'iu Chue, of Shuisaituen, Lohkongtung. This fruit belongs in a group with No. 169 [S. P. I. No. 64584] and is quite distinct from the tsing mui group, Nos. 152 to 165 [S. P. I. Nos. 64569 to 64582]. This tree has an upright habit not to be found in any of the other muis. The leaves are lanceolate, acuminate, and serrulate; the fruits are globular, pale yellow when ripe, and have a slightly pubescent skin. The flesh is golden yellow, mealy in texture, but rather fibrous near the seed, to which it adheres. The flesh is sweeter and more fragrant than that of any of the tsing muis, although it is slightly inferior in these respects to No. 169 [S. P. I. No. 64584].

64588 to 64586—Continued.

64584. *PRUNUS SALICINA* Lindl. Amygdalaceae.
 No. 169. *Hung mui*. Obtained during the middle of May, 1925, from trees growing in the Canton Christian College orchards. This fruit belongs in a group with hang mui, No. 167 [S. P. I. No. 64583], which is quite distinct from the tsing mui group, Nos. 152 to 165 [S. P. I. Nos. 64569 to 64582]. The tree has slender branches and a spreading habit; the leaves are lanceolate, acuminate, and serrulate, and can not be distinguished from those of hang mui. The fruits are globular in shape, and the purplish red skin is slightly pubescent. The golden-yellow flesh is slightly juicy, sweet, and fragrant, but near the seed, which is a cling, it is fibrous, sour, and bitter. By the addition of 1 part of sugar to 1 part of the flesh, including the skin, and rapidly cooking for a short time, an attractive and delicious jam may be prepared. These fruits also make excellent pies which have a spicy fragrance and flavor. The fruits are never salted by the Chinese, but are eaten fresh. They soften much more quickly after picking than do the fruits of the tsing muis or of hang mui, and are the first to disappear from the market. This is partly due to the fact that they ripen among the very first and partly to the fact that they are not good keepers.
 64585. *RUBUS* sp. Rosaceae.
 No. 166. May 25, 1925. *She p'auu lak*. Found on a roadside in Lohkongtung, in rather loamy to sandy granite soil. A sturdy, very thorny bush, 4 to 6 decimeters high, with small lavender flowers and red fruits whose large drupelets separate very readily. The flavor is fair.
 64586. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.
 No. 172. June 3, 1925. *Siu mak* and *min mak*. A bearded variety obtained from the Canton Christian College farm, where it has been growing for several years. It is sown about the middle of November and harvested in March.
 64587. *SOLANUM TUBEROSUM* L. Solanaceae. Potato.
 From Paget East, Bermuda. Tubers presented by E. A. McCallan, director, Department of Agriculture. Received July 30, 1925.
 Locally grown tubers.
 64588. *HELIANTHUS TUBEROSUS* L. Asteraceae. Jerusalem artichoke.
 From Sydney, New South Wales. Tubers purchased from Anderson & Co. Received August 11, 1925.
 A locally grown white variety.
 64589 to 64591. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.
 From Buitenzorg, Java. Seeds presented by L. Koch, chief, Plant Breeding Station. Received August 5, 1925.
 64589. *Zwarte* No. 16.
 64590. *Witte* No. 26.
 64591. *Zwarte* No. 27.

64592. TRIFOLIUM SUBTERRANEUM L.
Fabaceae. Subterranean clover.

From Sydney, New South Wales. Seeds purchased from Foster & Sons. Received August 7, 1925.

For previous introduction and description, see S. P. I. No. 64530.

64593 and 64594.

From Teneriffe, Canary Islands. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received August, 1925. Notes by Doctor Fairchild.

64593. SEMPERVIVUM CANARIENSE L.
Crassulaceae.

July 10, 1925. Plants from the cliffs near San Juan de la Rambla, not far from Orotava. This forms an immense rosette of leaves, sometimes as much as 14 inches across, which lies perfectly flat against perpendicular walls of lava rock. When there are many they give the appearance of a lot of large green dinner plates stuck to the cliffs. From the center of these plates arise the flowering racemes, and since the dinner plates are all about to form these racemes, they swell out in the middle and become like mammae. The flower clusters are striking but not particularly beautiful, since the flowers themselves are greenish in color. These could be grown on the back-yard walls of the homes in southern California.

64594. TAMARIX GALLICA L. Tamaricaceae.
Tamarisk.

July 11, 1925. The use of the tamarisk as a windbreak is almost universal in Algeria, Morocco, and the Canary Islands. The form of tamarisk which one sees everywhere appears to be slightly different in Teneriffe from the form which I saw in Algiers. Cuttings of this were collected on the beach at Orotava. We discovered there that a curious slimy salty liquid was actually dripping off the leaves and branches in such quantities that one could not walk under them without ruining his clothes. Evidently the plant roots like the salty water and eliminate the salt through the leaves. I remember that Volken discussed this feature of the tamarisk many years ago in his *Egyptische Arabische Wüste*.

64595. HETEROSPATHE ELATA Scheff.
Phoenicaceae. Palm.

From Manila, P. I. Seeds presented through P. J. Wester. Received August 7, 1925.

A tall, unarmed palm, with a straight, slender stem and long pinnate leaves, growing in protected situations and where the rainfall is evenly distributed. It is one of the most attractive and graceful palms that I have seen, and from my experience with it at Lamao it will make a good plant for the conservatory and possibly a good house palm. (Wester.)

For previous introduction, see S. P. I. No. 61323.

64596. RAPHANUS SATIVUS L. Brassicaceae.
Radish.

From Kagoshima, Japan. Seeds presented by Shiganari Kawagoe, Kagoshima Im-

64596—Continued.

perial College of Agriculture and Forestry, through Masao Yoshikawa, Bureau of Plant Industry. Received August 11, 1925.

A late variety of *Sakurajima daikon* (Sakurajima horse radish). All varieties of *Sakurajima daikon*, especially the late one, grow to giant size, often nearly 2 feet in diameter. The shape of this late variety is like a turnip, almost round, while that of the early varieties is rather long. The growth is mysteriously limited to *Sakurajima Island*, and in Kagoshima or the near-by villages, scarcely more than 2 miles from the island, we can not grow the real giant radish. The *Sakurajima daikon* is a very delicious vegetable, juicy and tender. The planting season on *Sakurajima Island*, for the late variety, is about the first of August. The seeds are sown in rows, 4 feet apart, and the distance between plants should be about 3 feet. (Yoshikawa.)

64597. BILLARDIERA LONGIFLORA Labill.
Pittosporaceae.

From South Yarra, Victoria, Australia. Seeds presented by William Laidlaw, Government botanist, National Herbarium of Victoria. Received August 11, 1925.

A twining shrub, sometimes several feet in length, with leaves varying from oval to linear in shape and from half an inch to 2 inches in length. The blue flowers are pendulous on solitary stems an inch long. This plant grows wild along watercourses in Australia and Tasmania.

For previous introduction, see S. P. I. No. 61326.

64598. CERATONIA SILIQUA L. Caesalpiniaceae.
Carob.

From La Palma, Majorca, Balearic Islands. Scions collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September 1, 1925.

No. 188a. August 16, 1925. I found this water sprout coming up from the roots of a large tree of the *Panescia* variety which bore hermaphrodite flowers and an abundance of large thick pods of apparently good quality. This may prove to be slightly different from the typical *Panescia*. (Fairchild.)

64599 to 64601. COIX LACRYMA-JOBI MAYUEN (Rom.) Stapf. Poaceae.
Adlay.

From Buitenzorg, Java. Seeds presented by P. J. S. Cramer, director, General Experiment Station. Received September 1, 1925.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64599. *Djoli bras*.

64600. *Djoli brasbruin*.

64601. *Djoli Hetan*.

64602. *DEGUELIA TRIFOLIATA* (Lour.)
Taub. (*Derris uliginosa* Benth.).
Fabaceae.

From Peradeniya, Ceylon. Seeds presented
by F. A. Stockdale, Director of Agriculture.
Received September 1, 1925.

A stout climbing shrub, native to eastern
Asia. The roots of some species of *Deguelia*
are used as fish poison in parts of India
and Africa, and this Indian species is intro-
duced for possible use as an insecticide.

For previous introduction, see S. P. I. No.
46019.

64603 to 64615. *CITRUS* spp. Rutaceae.

From Buitenzorg, Java. Collected by H. J.
Webber, College of Agriculture, Berkeley,
Calif. Received August 20, 1925. Notes
by Doctor Webber.

Budwood from the citrus collection at the
Buitenzorg Botanical Garden.

64603. *CITRUS AURANTIFOLIA* (Christm.)
Swingle. Lime.

No. 6. Mendado. Forma *amblycarpa*.
Garden No. XV J. B. XI 5. A rough-
skinned variety.

64604. *CITRUS GRANDIS* (L.) Osbeck (*C.*
decumana Murr.).

No. 4. Sumatra. Var. *sphaerocarpa*.
Garden No. III G. 86.

64605. *CITRUS MEDICA SARCODACTYLIS*
(Nooten) Swingle. Fingered citron.

No. 10. The Buddha-fingered citron
from P. J. S. Cramer's private garden.

64606. *CITRUS* sp.

No. 9. A citron or lemon type, prob-
ably a hybrid, which is known to give
very peculiar seedlings.

In Java I found that the citrus fruits
in the market at this time of year include
various types of a red or pink-fleshed
shaddock and types of Mandarin oranges,
some of which are fairly large and of
good quality. The following numbers are
of seeds taken from especially selected
fruits.

64607 to 64612. *CITRUS GRANDIS* (L.) Os-
beck (*C. decumana* Murr.). Shaddock.

64607 to 64610. Pink-fleshed shaddock.

64607. No. 11. 64609. No. 13.

64608. No. 12. 64610. No. 14.

64611. No. 18. Deep red-fleshed variety.

64612. No. 19. Pink-fleshed variety.

64613 to 64615. *CITRUS NOBILIS DELICIOSA*
(Ten.) Swingle. Mandarin orange.

64613. No. 15. 64614. No. 16.

64615. No. 17. A spicy variety.

64616 to 64646.

From Leningrad, Russia. Seeds presented
by B. L. Issatschenko, director, Botanic
Garden. Received August 22 and 24,
1925.

64616. *AESCHYNOMENE INDICA* L. Faba-
ceae.

A bushy leguminous annual 1 to 3
feet high, with pale-green feathery
leaves. Native to the Tropics. Procured
for trial as fodder and as green manure.

For previous introduction, see S. P. I.
No. 59294.

64616 to 64646—Continued.

64617 to 64624. *ASTRAGALUS* spp. Faba-
ceae.

64617. *ASTRAGALUS ALPINUS* L.

A perennial plant with ascending
stems about 8 inches high. Native to
the Alpine regions of central Europe.

64618. *ASTRAGALUS ARMENIACUS* Boiss.

A perennial caespitose plant, native
to Armenia, with leaves about 4 inches
long and small yellow flowers.

64619. *ASTRAGALUS BOETICUS* L.

An upright, often stout annual, with
compound leaves usually composed of
9 to 15 pairs of very narrow leaflets
and 6 to 15 pale-yellow flowers in a
crowded raceme. Native to the Medi-
terranean countries.

For previous introduction, see S. P.
I. No. 58693.

64620. *ASTRAGALUS CICER* L.

A European astragalus said to be
valuable for forage. It is a perennial
with prostrate or ascending stems.

64621. *ASTRAGALUS ECHINUS* DC.

A much-branched shrubby perennial,
native to alpine regions in Asia Minor.

64622. *ASTRAGALUS EXSCAPUS TRANSIL-
VANICUS* (Janka) Asch. and Graebn.

A perennial plant with very long
roots and a rhizome which forms a
thick mat. The stems are scarcely
more than 4 inches high. Native to
sunny places in the Mediterranean
countries.

64623. *ASTRAGALUS MACROCARPUS* DC.

A perennial astragalus native to
Palestine. The compound leaves con-
sist of 12 to 15 pairs of leaflets, each
about half an inch long.

64624. *ASTRAGALUS MEMBRANACEOUS*
(Fisch.) Bunge.

A perennial plant with hairy swol-
len pods, native to Spain.

64625 to 64628. *ELYMUS* spp. Poaceae.
Grass.

64625. *ELYMUS DAHURICUS* Turcz.

A tall perennial ryegrass with stout
erect stems, native to dry stony places
in Russia and Siberia.

For previous introduction, see S. P.
I. No. 36796.

64626. *ELYMUS EXCELSUS* Turcz.

A leafy-stemmed perennial grass
with a fibrous root and narrow leaves.
Native to southeastern Siberia.

64627. *ELYMUS* sp.

64628. *ELYMUS* sp.

64629. *LATHYRUS FILIFORMIS BAUHINI*
(Genty) Beck. (*L. ensifolius* Gay.).
Fabaceae.

A perennial leguminous plant, a foot
or two high, with a creeping rhizome.
Native to the Mediterranean region.

64630. *LATHYRUS INCONSPICUUS* L. Faba-
ceae.

An annual upright or ascending
leguminous plant with very slender stems
up to a foot in length. Native to the
Mediterranean region.

64616 to 64646—Continued.

64631. *LOLIUM PERENNE* L. Poaceae.
Perennial rye grass.

Received as *Lolium unicolom*, which is now referred to *L. perenne*.

64632. *LOLIUM RIGIDUM* Gaud. Poaceae.
Grass.

An annual gray-green bushy grass with ascending stems 1 or 2 feet long. Native to southern and central Europe.

64633. *LOTUS HISPIDUS* Desf. Fabaceae.

A deeply rooted annual plant with usually prostrate stems, native to the Mediterranean countries.

64634. *MEDICAGO FALCATA* L. Fabaceae.
Alfalfa.

64635. *MEDICAGO SATIVA* L. Fabaceae.
Alfalfa.

64636. *MISCANTHUS SACCHARIFLORUS* (Maxim.) Hack. Poaceae. Grass.

A stout perennial grass with long flat leaves and terminal spreading panicles. Native to southeastern Siberia.

64637. *ONOBRYCHIS CAPUT-GALLI* (L.) Lam. Fabaceae.

An annual or biennial prostrate or ascending plant with stems up to 3 feet in length. Native to dry situations in the Mediterranean region.

64638. *ORNITHOPUS PINNATUS* (Mill.) Druce (*O. ebracteatus* Brot.). Fabaceae.

An attractive annual leguminous plant about a foot and a half high, with spreading or prostrate stems. Native to the Mediterranean region.

64639. *PHASEOLUS VULGARIS* L. Fabaceae.
Common bean.

Locally grown beans.

64640. *PISUM ELATIUS* Bieb. Fabaceae.

A hardy annual, about 5 feet high, with leaves composed of one to three pairs of narrow leaflets and purple flowers. Native to woods and thickets in the alpine regions of Europe.

For previous introduction, see S. P. I. No. 58707.

64641. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

64642. *TRICHOLAENA ROSEA* Nees. Poaceae.
Natal grass.

Received as *Tricholaena grandiflora*, which is now referred to *T. rosea*.

- 64643 to 64645. *TRIFOLIUM* spp. Fabaceae.

64643. *TRIFOLIUM MARITIMUM* Huds.
Clover.

An annual erect or decumbent branching clover from Asia Minor, where it grows in fields and along the sea coasts. The flowers are white or pale flesh color.

For previous introduction, see S. P. I. No. 59370.

64644. *TRIFOLIUM PRATENSE* L.
Red clover.

Received as *Trifolium nivale*, which is now referred to *T. pratense*. Locally grown seeds.

64616 to 64646—Continued.

64645. *TRIFOLIUM STELLATUM* L.

An annual upright clover, up to a foot high, native to the Mediterranean region.

64646. *TRIGONELLA CAERULEA* (L.) Seringe. Fabaceae.

An annual upright plant, usually about a foot high and mostly unbranched, with bright-blue flowers having the same odor as the fenugreek (*Trigonella foenum-graecum*). Native to the Mediterranean region.

64647. *GLADIOLUS* sp. Iridaceae.

From Old Umtali, Rhodesia, Africa. Seeds presented by E. H. Greeley. Received September 4, 1925.

A native species of possible value for plant breeders.

64648. *PRUNUS ARMENIACA* L. Amygdalaceae.
Mikado apricot.

From Jamaica Plain, Mass. Bud sticks presented by E. H. Wilson, Arnold Arboretum. Received September 14, 1925.

A Japanese apricot under the name of "Mikado," a form of the common apricot (*Prunus armeniaca*), has been grown in the arboretum for several years, where it makes a small tree with erect branches and, flowering freely every spring, has proved here one of the handsomest and most satisfactory plants of its class. (Wilson.)

64649. *PENTZIA INCANA* (Thunb.) Kuntze (*P. virgata* Less.). Asteraceae.

From Middleburg, Cape Province, Union of South Africa. Seeds presented by the principal, Grootfontein School of Agriculture. Received September 10, 1925.

A low-growing, spreading bush which layers naturally when the tips of its branches arch over and touch the ground. In the eastern province of Cape Colony, where the rains occur in summer but where long, severe droughts are frequent, this is one of the most valuable of all the karoo plants for fodder purposes. It is especially good for sheep and goats, which eat it down almost to the ground. (David Fairchild.)

64650. *VITIS VINIFERA* L. Vitaceae.
Grape.

From Bay Saint Louis, Miss. Cuttings presented by George E. Murrell, horticulturist, Southern Railway. Received July 6, 1925.

From the Ransecar farm, about 1½ miles from Bay Saint Louis; owned by Mr. Hoffman. This grape was planted by R. R. Ware, who formerly owned the farm, and, according to George C. Husmann, Bureau of Plant Industry, it closely resembles the Listan variety. (Murrell.)

- 64651 and 64652. *BOUGAINVILLEA* sp. Nyctaginaceae.

From Port of Spain, Trinidad, British West Indies. Presented by W. G. Freeman, director of agriculture. Received July 11, 1925.

A pink variety originally brought from Ecuador. (Freeman.)

64651 and 64652—Continued.

64651. Plants.

64652. Cuttings.

The bougainvilleas are showy climbing shrubs, native to South America, which are adapted for growing under glass in the North and out of doors in the Gulf States and California.

64653 and 64654. GLADIOLUS spp. Iridaceae.

From Kirstenbosch, Cape Province, Union of South Africa. Seeds presented by R. H. Compton, director, National Botanic Gardens, through H. L. Shantz, Bureau of Plant Industry. Received August 20, 1925. Notes by Professor Compton.

64653. GLADIOLUS CALLISTUS Bolus f.

No. 498. A relatively new species which I have not had an opportunity to look up, but which belongs to the *Gladiolus blaudus* group. It is an extremely beautiful, tall, upright-growing species of a fine form and color.

64654. GLADIOLUS RECURVUS L.

No. 499. One of the most promising of our gladioli from the hybridizer's point of view. The flowers are blue and quite fragrant. This variety is highly regarded as an ornamental, and, because of its color and perfume, should also prove valuable for hybridization.

64655. CRYPTOSTEGIA MADAGASCARIENSIS Bojer. Asclepiadaceae.

From Tananarive, Madagascar. Seeds presented by the Chief, Agricultural Service. Received July 1, 1925.

A climbing shrubby vine, native to Madagascar, which is grown as an ornamental in South Africa and elsewhere. The leaves are short and leathery, and the whitish or pink flowers are 2 to 3 inches wide. Of possible value as a source of rubber.

For previous introduction, see S. P. I. No. 60442.

64656 to 64660. DIOSCOREA spp. Dioscoreaceae.

Yam.

From Rabaul, New Guinea. Tubers presented by G. Bryce, director of agriculture. Received July 6, 1925.

A collection of native yam varieties.

64656. *Allah*.64659. *Marut*.64657. *Lama*.64660. *Taniel*.64658. *Maine*.

64661 and 64662. SOLANUM spp. Solanaceae.

From Lima, Peru. Tubers presented by Julio Gaudron, Escuela Agricultura. Received July 8, 1925. Notes by Wilson Popenoe, Bureau of Plant Industry.

64661. SOLANUM sp.

Though this plant is grown at the Botanic Garden in Lima under the name of *Solanum maglia*, W. E. Safford believes it is not this species. Its tubers, which are more or less round in form and 1 or 2 inches in diameter, are of no value as food. The plant, however, is of interest to breeders for hybridizing with the true potato.

For previous introduction, see S. P. I. No. 62697.

64661 and 64662—Continued.

64662. SOLANUM TUBEROSUM L. Potato.

The yellow-fleshed potato is one of the most interesting varieties found in the Andean region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as those of some other varieties; but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor suggesting that of the chestnut. It seems to me the variety might be improved, so as to do away with the objectionable eyes, and that it would then be worth extensive cultivation.

For previous introduction, see S. P. I. No. 56803.

64663. ACACIA SCORPIOIDES (L.) W. F. Wight (A. arabica Willd.). Mimosaceae.

From Alexandria, Egypt. Plants presented by W. A. Lancaster, at the request of S. H. Shearer, Indianapolis, Ind. Received July 10, 1925.

According to J. H. Holland (Useful Plants of Nigeria, pt. 2, p. 288), a large proportion of the gum arabic of commerce is furnished by this tree, which is native to northern Africa and southwestern Asia. True gum arabic, however, is said to come only from another species, *Acacia senegal*. The pods and bark of *A. scorpioides* are used for tanning, and the leaves and young pods are sometimes fed to cattle. The wood is hard and durable and is used in India for making tools.

For previous introduction, see S. P. I. No. 58379.

64664. COIX LACRYMA-JOBI MA-YUEN (Rom.) Stapf. Poaceae. Adlay.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director of Agriculture, Peradeniya, at the request of P. J. Wester. Received July 11, 1925.

Batangas. The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to Mr. Wester it is better than upland rice for tropical agricultural regions in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

64665. PRUNUS TOMENTOSA Thunb. Amygdalaceae. Bush cherry.

From Rochester, N. Y. Bud sticks collected by C. C. Thomas. Bureau of Plant Industry. Received July 25, 1925.

Durant Park. The largest fruited and most prolific of any of the varieties in fruit in the park. (Thomas.)

64666. EUCALYPTUS DELEGATENSIS R. T. Baker. Myrtaceae.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received September 9, 1925.

A variety, commonly called "Gum-topped stringy bark," obtained at an altitude of about 3,000 feet by J. B. Milsom, near the Great Lake. (Evans.)

This tree, originally described by Hooker under the name *Eucalyptus gigantea*, is re-

ported to attain large dimensions. It is described as erect, the branches usually short and ascending, the bark thin and fibrous, and the foliage very similar to that of *E. obliqua*. For trial in the extreme southern United States and in California.

For previous introduction, see S. P. I. No. 58628.

64667. NEYRAUDIA MADAGASCARIENSIS
(Kunth) Hook. f. Poaceae. Grass.

From Tananarive, Madagascar. Seeds presented by the chief, Agricultural Service. Received July 15, 1925.

A tall, coarse, perennial grass, closely allied to the giant reed (*Arundo donax*). Although native to Madagascar, it is found in many parts of tropical Asia and Africa. The flat narrow leaves, 1 or 2 feet long, are on leafy, solid stems, 6 to 10 feet high. The shining silky erect panicles are 1 to 3 feet in length. In Madagascar the leaves are said to be used for making hats.

For previous introduction, see S. P. I. No. 39690.

64668. SALVIA COCCINEA PSEUDOCOCCINEA
(Jacq.) A. Gray. Menthaceae.

From Yucatan, Mexico. Seeds collected by Ernest L. Crandall, Bureau of Plant Industry. Received July 20, 1925.

A perennial sage with flowers the same shade of intense red as that of the cardinal flower (*Lobelia cardinalis*). The plants, which have two to five stems, vary in height from 15 to 30 inches and grow in little pockets of soil on limestone rocks in very dry sunny places. Each morning the fully opened flowers drop off before 11 o'clock. (Crandall.)

64669. PRUNUS INCISA Thunb. Amygdalaceae.

From Jamaica Plain, Mass. Seeds presented by C. S. Sargent, director, Arnold Arboretum. Received July 20, 1925.

An ornamental Japanese cherry which is described (Arnold Arboretum, Bulletin of Popular Information, vol. 8, no. 3) as a large shrub, or sometimes a small tree, about 25 feet high. The flowers, which appear in drooping clusters before the deeply cut leaves, are white or rosy, with bright-red calyxes, and the anthers are bright yellow. The petals fall early, but the calyxes, which gradually grow brighter, remain on the young fruits for some time and are quite showy.

64670 to 64672. SACCHARUM OFFICINARUM L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by Gonzalo M. Fortún, director, Estación Experimental Agronómica. Received July 20, 1925.

Locally grown strains.

64670. Co. 205.

64672. Co. 281.

64671. D. 247.

64673. MUSA URANOSCOPOS Lour. (*M. coccinea* Andr.). Musaceae. Banana.

From Canton, China. Seeds collected by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received July 28, 1925.

No. 151. May 19, 1925. *Wat chiu* and *shui tsu*. Obtained from a tree in an old

deserted yamen (Hok T'oi Nga Moon) on Kauifong. The plants, 4 to 5 meters high, have leaves which are longer and narrower than those of the usual cultivated bananas here. The bracts of the flowers curl, one at a time, back from the bud, exposing the brilliant-red inner surface, thus permitting the fertilization of the flowers. Unlike those of the cultivated edible banana, these bracts persist after the fruits reach maturity. The fruits are short and thick, being only 9 centimeters long, including the rather slender base by which they are attached to the stalk, and 11.5 centimeters in circumference. The skin turns a rich yellow when the fruits are ripe. The interior of the fruits is so packed with seeds that there is practically no flesh. (McClure.)

64674 to 64719. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceae.
Soy bean.

From Kagoshima, Japan. Seeds presented by K. Tamari, Kagoshima Imperial College of Agriculture and Forestry. Received July 23, 1925. Notes by Mr. Tamari.

64674 to 64683. Grown at the Prefecture Akita, in 1924, and obtained through C. Kanamoto, Yokozawamura, Akita.

64674. No. A-1. *Hanshiro Mame*. A half-white variety.

64675. No. A-2. *Mejiro*. White-eyed soy bean.

64676. No. A-3. *Goyo Mame*. A five-leaved variety.

64677. No. A-4. *Wase Akazaya*. An early variety having a reddish pod.

64678. No. A-5. *Ko Abakoku*. A small abakoku soy bean.

64679. No. A-6. *Kuro Mame*. Black variety.

64680. No. A-7. *Kuro Zaya*. Black-podded soy bean.

64681. No. A-8. *Akita*.

64682. No. A-9. *Ani*.

64683. No. A-10. *Tamazdukuri*. This variety was grown at Tamazdukuri.

64684 to 64701. Grown in Chosen during 1924 and collected by the courtesy of the director of the agricultural experiment station of Chosen, Suigen.

64684. C-1. *Suigen* No. 5.

64685. C-2. *Suigen* No. 8.

64686. C-3. *Suigen* No. 9.

64687. C-4. *Suigen* No. 10.

64688. C-5. *Ciarukon*.

64689. C-6. *Chūhoku Shiro*. A white soy bean grown at the Prefecture Chūhoku.

64690. C-7. *Tansen Tanryoku*. Light green variety grown in Tansen.

64691. C-8. *Chōzdui*.

64692. C-9. *Niku Awo Cha Daisdu*. A green variety with a brown skin.

64693. C-10. *Urusan*.

64694. C-11. *Himashi Daisdu*. Castor soy bean.

64695. C-12. *Kōshiu Chūryū*. From Koshū.

64674 to 64719—Continued.

64696. No. C-13. *Awo Daizdu*. Green soy bean.

64697. No. C-14. *Kuro Daizdu*. A black variety.

64698. No. C-15. *Kuro Satō Daizdu*. A black, sugar soy bean.

64699. No. C-16. *Ryuhan Daizdu*. Dragon-colored variety.

64700. No. C-17. *Chūnenkon*.

64701. No. C-18. *Moyashi Daizdu*. A variety used for bleaching.

64702 to 64705. Grown in Hokkaido in 1924, and obtained through the director of the agriculture experiment station at Hokkaido, Sapporo.

64702. No. H-1. *Ōyachi*.

64703. No. H-2. *Mizdukuguri*. (Diver soy bean.)

64704. No. H-3. *Turunoko*. (Crane chick soy bean.)

64705. No. H-4. *Yukikorogashi*. (Snowball soy bean.)

64706 to 64717. Grown during 1924 at the Prefecture Kumamoto and obtained through M. Jyo, of the prefectural authorities, Kumamoto.

64706. No. K-1. *Higo*.

64707. No. K-2. *Aoji*. A green variety.

64708. No. K-3. *Aka Wase*. An early, red variety.

64709. No. K-4. *Ki Zaya*. Yellow-podded variety.

64710. No. K-5. *Wase Kin Daizdu*. An early golden soy bean.

64711. No. K-6. *Riku U No. 3*. This variety was bred at the Riku U Agricultural Experiment Station.

64712. No. K-7. *Shiro Zaya*. A white-podded soy bean.

64713. No. K-8. *Kin Daizdu*. A golden variety.

64714. No. K-9. *Karyo Daizdu*. The improved soy bean.

64715. No. K-10. *Hachikoku*. (Eight koku soy bean; very productive.)

64716. No. K-11. *Asahi*. (The morning sun soy bean.)

64717. No. K-12. *Takiya*.

64718 and 64719. Grown during 1924 at the Prefecture Aichi and obtained through the director of the agricultural experiment station of the Prefecture Aichi, Anjo, Mikawa.

64718. No. N-1. *Kyōto-Kuro Daizdu*. Kyōto black soy bean.

64719. No. N-2. *Ko Mame*. Small-seeded variety.

64720 to 64749. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

From Aizu Wakamatsu, Japan. Seeds presented by Rev. Christopher Noss, Japan mission of the Reformed Church. Received July 23, 1925.

Locally grown strains.

64720. No. 1. 64723. No. 4.

64721. No. 2. 64724. No. 5.

64722. No. 3. 64725. No. 6.

64720 to 64749—Continued.

64726. No. 7. 64738. No. 19.

64727. No. 8. 64739. No. 20.

64728. No. 9. 64740. No. 21.

64729. No. 10. 64741. No. 22.

64730. No. 11. 64742. No. 23.

64731. No. 12. 64743. No. 24.

64732. No. 13. 64744. No. 25.

64733. No. 14. 64745. No. 26.

64734. No. 15. 64746. No. 27.

64735. No. 16. 64747. No. 28.

64736. No. 17. 64748. No. 29.

64737. No. 18. 64749. Mixed.

64750 to 64761. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Santiago de las Vegas, Cuba. Cuttings presented by J. R. Zell. Received July 30, 1925.

Locally grown strains.

64750. No. 1. 64756. No. 7.

64751. No. 2. 64757. No. 8.

64752. No. 3. 64758. No. 9.

64753. No. 4. 64759. No. 10.

64754. No. 5. 64760. No. 11.

64755. No. 6. 64761. No. 12.

64762. *ELAEAGNUS PHILIPPENSIS* Perr. (*E. philippinensis* Wester). Elaeagnaceae.

From the Philippine Islands. Seeds presented by P. J. Wester. Received August 26, 1925.

Lingaro. Seeds sent to me from the Philippines by Mrs. R. M. McCrory. This is an attractive climbing wild shrub with small pointed leaves, silvery beneath, and smooth pink oblong edible fruits about an inch long. These fruits have subacid or sour flesh of good flavor and make excellent jelly. (Wester.)

64763. *ALANGIUM LONGIFLORUM* Merr. Cornaceae.

From Los Banos, P. I. Seeds presented by Eduardo Quisumbing, assistant professor in plant physiology, College of Agriculture. Received September 9, 1925.

A handsome deciduous tropical tree, described by Merrill (Philippine Journal of Science, vol. 7, C, no. 5) as about 30 feet high with thin oblong leaves and small axillary clusters of white flowers.

64764. *LILIUM* sp. Liliaceae. Lily.

From Ertsingientze, Manchuria. Bulbs collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 9, 1925.

No. 3845. July 30, 1925. This is reported to be a drooping red lily, with recurved petals, which grows on the mountain sides. (Dorsett.)

64765 to 64797.

From Manchuria. Seeds and bulbs collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received August 24, 1925. Notes by Mr. Dorsett.

64765 to 64797—Continued.

64765. *AGROPYRON CILIARE* (Trin.) Franch.
Poaceae. Grass.

No. 3697. Harbin. July 11, 1925. A tall-growing short-awned grass found in the new Russian cemetery.

64766. *AQUILEGIA OXYSEPALA* Trautv. and Mey. Ranunculaceae. Columbine.

No. 3526. June 29, 1925. An herbaceous plant, having more or less square flowers with four points; obtained in rocky situations at Jalatun and Barun.

64767. *OXYTROPIS OXYPHYLLA* (Pall.) DC. Fabaceae.

No. 3610. Hailar. July 5, 1925. Obtained from plants growing in the sand dunes.

64768. *CARAGANA PYGMAEA* (L.) DC. Fabaceae. Dwarf pea tree.

No. 3677. Chalaioerh. July 7, 1925. A small thorny shrub.

For previous introduction, see S. P. I. No. 55769.

64769. *CARAGANA* sp. Fabaceae.

No. 3702. Harbin. July 11, 1925. Obtained in the new Russian cemetery.

64770. *ERODIUM* sp. Geraniaceae.

No. 3383. Tsitsihar. June 22, 1925. From the nursery of the forester of the Chinese Eastern Railway.

64771. *FESTUCA OVINA* L. Poaceae. Sheep fescue.

No. 3599. Hilar. July 3, 1925. A rather tall-growing grass found in the sand dunes located to the north of the city. The location is very much exposed, and at this season, at least, it is very dry.

64772. *HORDEUM VIOLACEUM* Boiss. Poaceae. Grass.

No. 3589. Hilar. July 3, 1925. One of the commonest grasses we have found in the regions thus far visited.

64773. *LILIUM TENUIFOLIUM* Fisch. Liliaceae. Lily.

No. 3477. June 27, 1925. Bulbs of a low-growing lily with recurved drooping pink or red flowers, found on the granite mountain to the east of Jalatun.

64774. *LILIUM CONCOLOR* BUSCHIANUM (Lodd.) Baker. Liliaceae. Lily.

No. 3478. Jalatun. June 28, 1925. Bulbs of an upright red-flowered lily growing on the lower levels and occasionally on the sides of the hills. The petals of this lily do not recurve, and the flowers do not droop but stand erect.

64775. *MELICA GMELINI* Turcz. Poaceae. Grass.

No. 3469. Barun. June 29, 1925. Found on the mountain side in exposed rocky situations.

64776. *PAPAVER NUDICAULE* L. Papaveraceae. Poppy.

No. 3479. Jalatun. June 27, 1925. An attractive sulphur-yellow long-stemmed poppy which is abundant in this region.

64777. *PHOENIX DACTYLIFERA* L. Phoenicaceae. Date palm.

No. 3307. June 15, 1925. "Eggplant" date, received from E. M. Lamb, director,

64765 to 64797—Continued.

First Sino-Turkestan Motion Picture Expedition, and called by him Tsao erh, meaning "Tibetan jujube." It is my understanding that these fruits are grown in Tibet.

64778 to 64786. *POA* spp. Poaceae. Grass.

64778 and 64779. *POA CHAIXII* Vill.

64778. No. 3313. June 17, 1925. A rather coarse, very open-headed grass obtained from the small park near New Town, Harbin.

64779. No. 3552. Batun. July 1, 1925. A very open-headed grass with brittle stems.

64780. *POA NEMORALIS* L.

No. 3363. June 22, 1925. Obtained from the dry prairie land north of Tsitsihar. This is one of the most common grasses we have seen on the prairie.

64781. *POA PALUSTRIS* L. Fowl meadow grass.

No. 3314. June 17, 1925. Found in the small parks on the hill just outside of New Town, Harbin.

64782 to 64784. *POA PRATENSIS* L. Bluegrass.

64782. No. 3517. June 29, 1925. Plants found growing in moist gravelly soil at Barun.

64783. No. 3542. Barun. June 30, 1925. This is a single-stemmed, rather open-headed grass, found in a river-bottom area.

64784. No. 3664. Hailar. July 6, 1925. Obtained in the prairie, Argon river bottom.

64785 and 64786. *POA SPHONDYLODES* Trin.

64785. No. 3371. Tsitsihar. June 21, 1925. From a hot dry field near the railroad station.

64786. No. 3625. Hailar. July 5, 1925.

64787. *POPULUS SUAVEOLENS* Fisch. Salicaceae. Poplar.

No. 3480. Jalatun. June 27, 1925. From trees growing in the parks.

64788 and 64789. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

64788. No. 3704. Harbin. July 12, 1925. A medium-sized, almost round, deep-yellow apricot with golden-yellow flesh which, though not juicy, is of very good quality. This looks as though it may be a plumcot; the seeds appear to be somewhat different from the ordinary apricot.

64789. No. 3710. Harbin. July 20, 1925. This variety, called "Large red apricot," was shipped in from Tientsin. It is about the hand-somest apricot we have seen, being bright golden yellow with a very attractive pink blush and yellow flesh. The seed is large and quite flat. The fruit is a freestone, not juicy, and, according to our standard, the quality is low, but this may be due to the fruit having been picked quite green.

64765 to 64797—Continued.

64790. *PRUNUS AVIUM* L. Amygdalaceae.
Sweet cherry.

No. 3338. Harbin. June 18, 1925. A creamy white cherry, the fruits of which vary considerably in size, purchased in the market.

64791. *PRUNUS PADUS* L. Amygdalaceae.
European bird cherry.

No. 3607. Hailar. July 5, 1925. This cherry was procured in the sand dunes. It may prove to be of interest as a shade and ornamental tree for the Great Plains region.

64792 and 64793. *PUCCINELLIA DISTANS* (L.) Parl. Poaceae. Grass.

64792. No. 3315. Harbin. June 17, 1925. We found this grass being eaten by cattle, but that may have been because they had little else to eat.

64793. No. 3634. July 5, 1925. A grass of medium height collected at Hailar.

64794. *RIBES DIACANTHA* Pall. Grossulariaceae. Currant.

No. 3600. July 3, 1925. Found wild in the sand dunes to the north of Hailar.

64795. *SAMBUCUS* sp. Caprifoliaceae. Elder.

No. 3703. Harbin. July 11, 1925. A dark-brown seeded elderberry growing in the new Russian cemetery.

64796. *SPIRAEA* sp. Rosaceae. Spirea.

No. 3495. Jalatun. June 28, 1925. Found on the west side of the Granite Mountain across from the railway station. The plants showed evidence of having flowered very freely, and they did not show any winterkilling.

64797. *LONICERA* sp. Caprifoliaceae.

No. 3685. Bukedoo. July 8, 1925. A variety having dark-purple or black berries which are very acid, mucilaginous, and of good flavor.

64798 to 64805.

From Blackwood, South Australia. Seeds presented by Edwin Ashby, "Wittunga." Received September 3, 1925. Notes taken from Bentham, *Flora Australiensis*.

64798. *ACACIA SCAPELLIFORMIS* Meisn. Mimosaceae.

A tall shrub from Western Australia, with the phyllodia (leaflike stems) triangular lanceolate and about an inch long. The pods are very long and narrow, twisting readily.

64799. *ACACIA SIGNATA* F. Muell. Mimosaceae.

A straggling shrub, 6 to 8 feet high, with narrowly linear phyllodia about 4 inches long and short flat leathery pods. Native to Western Australia.

64800. *ISOPOGON ASPER* R. Br. Proteaceae.

Usually a low shrub, with erect branches 1 or 2 feet high, and crowded pinnate leaves with rigid leaflets, the entire leaf generally not more than an inch long. The red flowers are in small dense cones which are either terminal or axillary. Native to Western Australia.

64798 to 64805—Continued.

64801. *LEPTOSPERMUM ROEI* Benth. Myrtaceae.

A slender-branched shrub, indigenous to Western Australia, covered with silky pubescence, and with flat oblong leaves 3 to 6 inches long. The rather large white flowers are either solitary or in pairs.

64802 to 64804. *MELALEUCA* spp. Myrtaceae.

64802. *MELALEUCA CORDATA* Benth.

A rigid shrub with numerous small round or oval spreading leaves and dense globular heads of rather small red flowers. Native to Western Australia.

64803. *MELALEUCA HOLOSERICEA* Schauer.

A bushy shrub, from Western Australia, generally 2 to 3 feet high, with the leaves and branches covered with white pubescence. The leaves are linear and half an inch long. The pink flowers are in dense terminal heads.

64804. *MELALEUCA LONGICOMA* Benth.

The large rich-red flowers of this Australian shrub are in small cylindrical spikes at the bases of the young leafy branches. The oblong leaves are less than 2 inches long.

64805. *TEMPLETONIA RETUSA* (Vent.) R. Br. Fabaceae.

A tall Australian leguminous shrub with small leathery leaves and large bright-red flowers, more than an inch long, either solitary or in few-flowered clusters.

64806 and 64807.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received September 8, 1925.

64806. *ACACIA VERNICIFLUA* A. Cunn. Mimosaceae.

According to Curtis's Botanical Magazine (pl. 3266), this is a slender much-branched shrub with leathery, very narrow phyllodia [leaflike stems] about 2 inches in length and deep-yellow flowers in small heads which are generally in pairs. It is native to the barren hills around Bathurst, New South Wales.

For previous introduction, see S. P. I. No. 56869.

64807. *CANDOLLEA GRAMINIFOLIA* (Swartz) F. Muell. (*Stylidium graminifolium* Swartz). Candolleaceae.

An ornamental Australian plant which, according to Bentham (*Flora Australiensis*, vol. 4, p. 10), has stiff grasslike leaves, sometimes 9 inches long and always growing in a tuft from the end of a very short stem, and scapes 6 to 18 inches long bearing a simple raceme of pink flowers.

For previous introduction, see S. P. I. No. 56563.

64808 to 64810.

From Dehra Dun, United Provinces, India. Seeds presented by R. N. Parker, forest botanist, Forest Research Institute and College. Received September 14, 1925. Notes taken from Munro's Monograph of the Bambusaceae.

64808 to 64810—Continued.

64808. *CEPHALOSTACHYUM PERGRACILE* Munro. Poaceae. **Bamboo.**

A beautiful arborescent bamboo, cespitose in habit, with erect stems 40 feet in height and sometimes 10 inches in circumference. The narrowly lanceolate leaves are usually about 10 inches long and an inch wide. The flowering panicles are sometimes 18 inches long. One of the chief bamboos of Burma.

For previous introduction, see S. P. I. No. 40887.

64809. *DENDROCALAMUS HAMILTONII* Nees and Arn. Poaceae. **Bamboo.**

The common bamboo of the eastern Himalayas, where it grows to a height of from 40 to 60 feet, with horizontal branches and stems 4 to 7 inches in diameter. The foliage is very variable, the broadly lanceolate leaves being 4 to 16 inches long and up to 5 inches wide. The plant is said to flower every year, and the young shoots are eaten when boiled.

For previous introduction, see S. P. I. No. 53909.

64810. *DENDROCALAMUS MEMBRANACEUS* Munro. Poaceae. **Bamboo.**

A bamboo native to eastern India, probably arborescent, with comparatively small leaves about 4 inches long and one-tenth as wide.

64811. *OMPHALEA OLEIFERA* Hemsl. Euphorbiaceae.

From Moran, Amatitlan, Guatemala. Seeds presented by J. G. Salas, director general de agricultura, City of Guatemala, through P. C. Standley, United States National Museum. Received September 14, 1925.

For previous introduction and description, see S. P. I. No. 64557.

64812 to 64842.

From Avondale, Auckland, New Zealand. Plants presented by H. R. Wright. Received September 19, 1925. Notes by Mr. Wright.

64812 to 64814. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. **Peach.**

64812. *Allen's Late.*

64813. *Golden Queen.* A yellow-fleshed clingstone, claimed to be one of the best canning sorts. The tree is compact in habit and a heavy cropper; fruits of medium size.

64814. *Lee's Salway.* The best of the Salway type; a very fine peach.

64815 and 64816. *AMYGDALUS PERSICA NECTARINA* Ait. Amygdalaceae. **Nectarine.**

64815. *Early Rivers.* Fruits very large; skin light yellow with crimson cheek; flesh tender, juicy, sweet, with rich flavor; season very early.

64816. *Zealandia.* One of the largest of all nectarines.

64817 and 64818. *CYDONIA OBLONGA* Mill. Malaceae. **Quince.**

64817. *Manning Seedling.* A super-quince.

64812 to 64842—Continued.

64818. *Smyrna.* Tree strong growing and prolific, bearing often in second year from budding. Fruits very large; flesh tender when cooked, with a delicious flavor.

64819 to 64821. *DIOSPYROS KAKI* L. f. Diospyraceae. **Kaki.**

64819. *Charming.* Not yet tested for fruit; autumn foliage very fine.

64820. *Hazelwood.*

64821. *Wright's Polrialot.*

64822 to 64825. *ERIOBOTRYA JAPONICA* (Thunb.) Lindl. Malaceae. **Loquat.**

64822. *Hunter.* An Australian variety.

64823. *Myer's Best.* A New Zealand variety.

64824. *Smith.* An Australian variety.

64825. *Success.* A New Zealand variety.

64826. *FICUS CARICA* L. Moraceae. **Fig.**

Mrs. Williams. Of unknown origin; given to Mrs. Williams, of Auckland, by an old sea captain. The fruits are large, brown, often weighing 12 ounces, of excellent flavor. The tree is strong and prolific.

64827. *MALUS PUMILA* Mill. Malaceae. **Paradise apple.**

To be tested as a dwarf stock.

For previous introduction, see S. P. I. No. 54386.

64828 to 64832. *MALUS SYLVESTRIS* Mill. Malaceae. **Apple.**

64828. *Aromatic.*

64829. *Cox's Early.*

64830. *Crisp's Russet.* Fruit large, conical, and regular; flesh crisp, firm, and juicy; of first-class quality. Season late.

64831. *Granny Smith.*

64832. *Sturmer Pippin.* Fruit medium sized, roundish oblate; skin yellow, almost covered with brownish red; flesh firm, crisp, very rich; grown largely in Tasmania for export.

64833. *MALUS* sp. Malaceae. **Crab apple.**

Gorgeous. The best red crab I have ever seen; up to an inch in diameter, and a real marvel for cropping. A Japanese seedling.

64834. *MALUS* sp. Malaceae. **Crab apple.**

Golden beauty. A yellow crab worked on *Prunus prunifolia*, the only stock for it. A Japanese seedling.

64835 to 64838. *PRUNUS ARMENIACA* L. Amygdalaceae. **Apricot.**

64835. *Bolton.*

64836. *Cattles Early.*

64837. *Cattles Red.*

64838. *Trevatt.*

64839. *PRUNUS* sp. Amygdalaceae. **Plum.** *Raglan.*

64840. *PRUNUS* sp. Amygdalaceae. **Plum.** *Blileana.*

64812 to 64842—Continued.

64841. *PRUNUS* sp. Amygdalaceae. Plum.
Early Gem. A very early-maturing cherry plum raised in Australia.
64842. *PRUNUS* sp. Amygdalaceae. Plum.
Jenkin's Seedling.

64843 and 64844. *PINUS* spp. Pinaceae.
Pine.

From Zernez, Switzerland. Seeds presented by Mr. Bessole, of Veuve Roner & Co., at the request of Augustine Henry, College of Science for Ireland, Dublin. Received September 11, 1925.

64843. *PINUS MONTANA PUMILIO* (Haenke) Willk.

A handsome hardy low shrubby pine with ascending branches densely clothed with bright-green foliage. Before maturity the cone is usually violet-purple, becoming yellowish or dark brown when fully ripe. This form is native to the mountains of central Europe.

For previous introduction, see S. P. I. No. 59697.

64844. *PINUS MONTANA UNCINATA* Willk.

A variety of *Pinus montana* which becomes 60 to 80 feet high, with bluntly pyramidal cones. It is found in France and Spain.

64845 to 64854. *CITRUS* spp. Rutaceae.

From Avondale, Auckland, New Zealand. Plants presented by H. R. Wright. Received September 19, 1925. Notes by Mr. Wright.

- 64845 to 64851. *CITRUS NOBILIS DELICIOSA* (Ten.) Swingle. Mandarin orange.

64845. *Beauty of Glen Retreat.* I have seen these more than 8 inches in diameter.

64846. *Early Imperial.* The earliest mandarin to ripen here.

64847. *Early Shipping.* An orange-mandarin hybrid; very early.

64848. *Ellendale Beauty.*

64849. *Jacob Special.*

64850. *Navel orange.*

64851. *Thorny.*

- 64852 to 64854. *CITRUS SINENSIS* (L.) Osbeck. Sweet orange.

64852 and 64853. *Best's Seedless*, a selected strain; quality excellent.

64852. On rough-lemon stock.

64853. On sour-orange stock.

64854. *Groverly Navel.* A prolific variety.

64855 to 64868.

From Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 8, 1925. Notes by Mr. Dorsett.

64855. *FESTUCA RUBRA* L. Poaceae.
Red fescue grass.

No. 3742. Hingan. July 22, 1925. A tall grass with slender stems and panicles and fine leaves. From plants growing about halfway up the mountain.

64855 to 64868—Continued.

64856. *FRAGARIA* sp. Rosaceae.
Strawberry.

No. 3753. Hingan. July 22, 1925. Fruits purchased from a Chinese who gathered them on the hills about here.

64857. *MALUS* sp. Malaceae. Apple.

No. 3830. Harbin. July 25, 1925. Green and very delicate pink-skinned fruits, of irregular size, with mealy white flesh of a sweet flavor. We think this the best-flavored Chinese apple we have tasted.

64858. *POA NEMORALIS* L. Poaceae.
Grass.

No. 3753a. Hingan. July 22, 1925.

64859. *RIBES* sp. Grossulariaceae.
Currant.

No. 3729. July 22, 1925. Seeds of a black currant obtained from a Chinese who collected them near Bukedoo.

64860. *RIBES* sp. Grossulariaceae.
Currant.

No. 3800. Hingan. July 23, 1925. Seeds of a black currant purchased from a Chinese at the railway station.

64861. *RIBES* sp. Grossulariaceae.
Currant.

No. 3801. July 23, 1925. Seeds obtained from a Chinese, who collected the fruits at Hingan.

64862. *RUBUS* sp. Rosaceae. Raspberry.

No. 3803. Hingan. July 23, 1925. Found on the old railway grade on the mountain.

64863. *RUBUS* sp. Rosaceae. Raspberry.

No. 3831. Harbin. July 25, 1925. A large-fruited red-capped raspberry purchased in the market, where it had been shipped in from Yimienpo in the mountains southeast of Harbin.

64864. *RUBUS* sp. Rosaceae. Raspberry.

No. 3832. July 25, 1925. A light creamy yellow raspberry purchased in the market, where it had been shipped in from Yimienpo in the mountains southeast of Harbin. This is the best raspberry we have seen. It is of good size and quality and of very good appearance.

64865. *SAMBUCUS RACEMOSA* L. Caprifoliaceae.
Red elder.

No. 3792. Hingan. July 23, 1925. An attractive ornamental, about 12 feet in height, found on the mountain side. It produces clusters of bright-red berries.

64866. *SPIRAEA MEDIA* Schmidt. Rosaceae.
Spirea.

No. 3741. Hingan. July 22, 1925. Plants 12 to 18 inches high, growing on the top of the mountain to the south of the railroad station. The flowers are white.

64867. *VACCINIUM VITIS-IDAEA* L. Vacciniaceae.

No. 3745. Hingan. July 23, 1925.

64868. *VACCINIUM* sp. Vacciniaceae.

No. 3802. Hingan. July 23, 1925. Fruits mostly round and deep purple with considerable bloom.

64869 to 64887.

From Harbin, Manchuria. Seeds collected by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 16, 1925. Notes by Mr. Dorsett.

64869 and 64870. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

64869. No. 3835. July 27, 1925. "Three good friends." A light-green thin-skinned watermelon, of fair quality, with red flesh and black seeds, shipped in from Tashihyengkou.

64870. No. 3917. August 8, 1925. A small green or maybe striped watermelon from Hailar, where it is said the best melons are grown.

64871 to 64875. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

64871. No. 3834. July 27, 1925. "Chinese striped melon." A green and yellow melon with a pleasant aroma. The white flesh is of fair quality.

64872. No. 3857. August 4, 1925. "White melon." A small white melon with faint reddish brown stripes and white flesh which is crisp and watery.

64873. No. 3858. August 4, 1925. A small green and yellow striped melon with green, rather firm, thin sweet watery flesh of only fair quality. This and the other small melon, No. 3857 [S. P. I. No. 64872], may be short-season varieties.

64874. No. 3874. August 4, 1925. A small light-green melon purchased in the market at Pristan. The thin crisp green flesh is watery and sweet and of poor quality. A short-season variety.

64875. No. 3861. August 4, 1925. The Russian melon with yellowish green skin and rather melting sweetish yellow flesh.

64876. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Poaceae.

Six-rowed barley.

No. 3878. August 5, 1925. "Black barley" obtained from the test garden of the Manchurian Agricultural Society, Harbin.

64877 and 64878. *HORDEUM VULGARE PAL-LIDUM* Seringe. Poaceae.

Six-rowed barley.

August 5, 1925. Obtained from the test garden of the Manchurian Agricultural Society, Harbin.

64877. No. 3879. A local variety of barley, No. 4 in the garden series.

64878. No. 3880. A local variety of barley, No. 6 in the garden series.

64879. *PRINSEPIA SINENSIS* Oliver. Amygdalaceae.

No. 3847. Ertsingtientzi. July 30, 1925. A "thorn cherry." The fruits, which grow abundantly here, are edible but not especially good. They are rather large and vary considerably in size.

64880 to 64886. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

64880. No. 3842. Ertsingtientzi. July 30, 1925. A wild apricot found on the mountain side. The seeds vary considerably in size and general appearance.

64869 to 64887—Continued.

64881 to 64883. Obtained through the superintendent of the botanical garden of the Manchurian Agricultural Society.

64881. No. 3910. August 8, 1925. A large-fruited variety.

64882. No. 3911. August 8, 1925. A very dark reddish variety with relatively small seeds, from tree No. 17.

64883. No. 3912. August 8, 1925. A yellow variety from tree No. 20.

64884. No. 3914. August 5, 1925. Presented by B. W. Skvortzow; selected from the best types growing here.

64885. No. 3915. August 8, 1925. Presented by B. W. Skvortzow; selected from a private garden.

64886. No. 3916. August 8, 1925. Presented by B. W. Skvortzow; a large-fruited variety.

64887. *RUBUS CRATAEGIFOLIUS* Bunge. Rosaceae. Siberian raspberry.

No. 3841. Ertsingtientzi. July 30, 1925. Obtained from wild plants growing on the mountains. The fruits are red and for a wild variety large, but of poor quality.

64888. *ALLIUM NIGRUM* L. Liliaceae.

From Morocco. Bulbs collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received June 29, 1925. Numbered September, 1925.

Collected near Ouezzan; of possible value for borders. (Fairchild.)

A tall species, about 3 feet in height, native to southern Europe. The attractive pale-violet or whitish flowers are produced in summer.

For previous introduction, see S. P. I. No. 58878.

64889 to 64892. *GOSSYPIUM* spp. Malvaceae. Cotton.

From Bangalore, India. Seeds presented by V. N. Ranganatha Rao, assistant botanist, Department of Agriculture. Received September 11, 1925.

Locally grown strains.

64889. *GOSSYPIUM ARBOREUM* L.

This cotton is commonly grown in Mysore. (Rao.)

For previous introduction, see S. P. I. No. 52384.

64890 and 64891. *GOSSYPIUM HERBACEUM* L.

Variety *melanospermum*. A black-seeded variety.

64890. No. 1.

64891. No. 2.

64892. *GOSSYPIUM OBTUSIFOLIUM* Roxb.

One of our indigenous cottons. (Rao.)

For previous introduction, see S. P. I. No. 45326.

64893 to 64896. *CITRUS* spp. Rutaceae.

From Avondale, Auckland, New Zealand. Plants presented by H. R. Wright. Received September 30, 1925. Notes by Mr. Wright.

64893 to 64896—Continued.

64893. CITRUS SINENSIS (L.) Osbeck.
Sweet orange.

Best's Seedless orange; on rough-lemon stock. A selected strain.

64894. CITRUS sp.

Byfieldon; on rough-lemon stock.

64895. CITRUS sp.

Muscio Seedling; on mandarin stock.

64896. CITRUS sp.

Pride of Ellendale; on mandarin stock.

64897 to 64904. GLADIOLUS spp. Iridaceae.

From Pretoria, Transvaal, Union of South Africa. Bulbs presented by I. B. Pole Evans, Chief, Division of Botany. Received August 12, 1925.

These gladioli, lifted from my own garden, have been collected on various occasions in different parts of the country. (Pole Evans.)

64897. GLADIOLUS sp.

No. 2.

64898. GLADIOLUS sp.

No. 12.

64899. GLADIOLUS sp.

No. 14.

64900. GLADIOLUS sp.

No. 23.

64901. GLADIOLUS sp.

No. 24.

64902. GLADIOLUS sp.

No. 26.

64903. GLADIOLUS sp.

No. 50.

64904. GLADIOLUS sp.

No. 255.

64905 and 64906. AVERRHOA spp. Oxalidaceae.

From Manila, P. I. Plants presented by S. Youngberg, acting director, Bureau of Agriculture. Received August 24, 1925.

According to P. J. Wester, formerly of the Bureau of Science, Manila, the following are superior varieties of the bilimbi and carambola. They are introduced for testing in the warmest parts of the United States.

64905. AVERRHOA BILIMBI L. Bilimbi.

Camia c 5135. The bilimbi, a tree 20 to 60 feet high, is extensively cultivated in parts of South America and the West Indies for the sake of its greenish yellow, cucumber-shaped, acid fruits, which are pickled or used as a relish with meat. It is tropical in its requirements.

64906. AVERRHOA CARAMBOLA L. Carambola.

Carambola c 5134. The carambola is similar to the bilimbi, but the yellow or golden-brown fruits are somewhat larger and less acid. The tree is smaller, varying in height from 15 to 30 feet, and is grown occasionally in the warmest parts of Florida.

64907 to 65000.

From the Mediterranean region. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry. Received September, 1925. Notes by Doctor Fairchild.

64907. ARGANIA SPINOSA (L.) Skeels (*A. sideroxylon* Roem. and Schult.). Sapotaceae.

Collected in the Sous Valley, near Agadir, Morocco, June, 1925. The argan tree, one of the most drought-resistant trees known, covers thousands of acres of the rockiest, driest soil in all Morocco and furnishes the only green foliage for goats during the terrifically dry summers. This tree is related to the sapodilla, being of the Sapotaceae, but with fruits which, when raw, are extremely acrid; they are eaten by cattle, sheep, and goats. The seeds contain a strongly flavored oil which, after being heated to drive off the odor, is excellent to use for frying and is preferred by some to olive oil.

64908 and 64909. ASPHODELUS FISTULOSUS L. Liliaceae.

A small stemless annual up to 20 inches in height with a dense rosette of very narrow leaves about a foot long and racemes of small, pinkish, lilylike flowers. Native to the Mediterranean countries.

64908. No. 16. Found near Agadir, on the road to Mogador, June 8, 1925.

64909. No. 48. Found near Marrakesh, on the road to Mogador, May 17, 1925.

64910. ASPRIS sp. Poaceae. Grass.

No. 88. Near Rabat, Morocco. June 17, 1925. A small beautiful grass with delicate panicles of very ornamental flowers.

64911 and 64912. BISERRULA PELECINUS L. Fabaceae.

An annual leguminous shrub, prostrate or ascending in habit, with numerous slender stems up to a foot long, unequally pinnate leaves, and globular clusters of light-yellow flowers. Native to waste places in the Mediterranean countries.

64911. No. 90. Near Rabat, on the road to Casa Blanca, May 8, 1925.

64912. No. 110. From the pasture land near Algeciras, Spain, June 27, 1925.

64913. BOCCONIA FRUTESCENS L. Papaveraceae.

No. 116. From the Santa Brigida Hotel gardens, Las Palmas, Grand Canary, Canary Islands, July 23, 1925. A large showy shrub 10 feet in height, with very large attractive leaves which are deeply lobed and pale beneath. The yellow flowers are borne in large pendent panicles followed by very interesting fruits with brilliant-red arils.

For previous introduction, see S. P. I. No. 33102.

64914. BROMUS sp. Poaceae. Grass.

No. 46. Near Marrakesh, Morocco, May 17, 1925. A dry-land grass growing on baked clay soil in a wheat field.

64915. CAESALPINIA PECTINATA Cav. (*C. tinctoria* Domb.). Caesalpinaceae.

No. 119. From the garden of Raphael Cabrera, Yaiza, Lanzarote, Canary Islands.

A tall upright spiny shrub or small tree, often planted for hedges in Peru.

64907 to 65000—Continued.

The largest trees attain a height of 25 to 30 feet, with trunks 6 to 8 inches in diameter. The foliage is deep green, with the leaflets smooth and polished on the upper surface. The greenish yellow flowers, in cylindrical open spikes, are not very conspicuous, but the pods are produced in large clusters, and the exposed surfaces show bright scarlet for a long time before maturing. This tree might have value as a hedge plant or windbreak in the drier, warmer parts of the Southwestern States. (O. F. Cook, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 41323.

64916. *CANARINA CANARIENSIS* (L.) Kuntze (*C. campanulata* L.). Campanulaceae.

No. 111. Presented by Juan Bolinaga, Directeur du Jardin de Acclimatation, Orotava, Teneriffe, Canary Islands, July 8, 1925.

According to Doctor Fairchild's note, under S. P. I. No. 9664, this is a pretty creeper, native to the Canary Islands, with luxuriant light-green foliage and bell-shaped orange-red flowers which are very showy. It requires much moisture and grows naturally in shaded valleys of the Canary Islands.

64917. *COTYLEDON UMBILICUS* L. Crasulaceae.

No. 175. Tubers from an Arab cemetery near Amismiz, south of Marrakesh, in the Great Atlas Mountains of Morocco, May 29, 1925. A drought-resistant plant grown on the tile roofs of houses in Morocco, giving them a look of age.

A perennial fleshy plant up to a foot high with succulent orbicular leaves and pendulous racemes of yellowish green flowers. Native to western Europe.

64918. *DATURA* sp. Solanaceae.

No. 120. From the garden of Señor Machado, Icod, Teneriffe, Canary Islands, July 8, 1925. A variety having pure-white trumpet-shaped flowers.

64919. *EBENUS PINNATA* Ait. Fabaceae.

No. 15. Near Agadir, on the road to Mogador, Morocco, June 8, 1925. A beautiful legume with lovely heads of pink flowers on long peduncles, and gray-green foliage, which forms clumps on dry roadsides.

64920. *ECHIMUM FASTUOSUM* Salisb. Boraginaceae.

No. 114. From the La Paz estate, Orotava, Teneriffe, Canary Islands, July 10, 1925. A much-branched shrub 8 feet high with gray-green foliage and spikes of sky-blue flowers streaked with white.

For previous introduction, see S. P. I. No. 35672.

64921. *ECHIMUM SIMPLEX* DC. Boraginaceae.

No. 103. From the La Paz estate, Orotava, Teneriffe, Canary Islands, July 10, 1925. "Pride of Teneriffe." An amazing plant which produces an enormous spike of white flowers, 10 feet high, from a basal rosette of leaves.

64922. *FUCHSIA SPECIOSA* Hort. Onograceae. Fuchsia.

No. 127. These seeds were obtained from Juan Bolinaga, Directeur du Jardin

64907 to 65000—Continued.

de Acclimatation, Orotava, Teneriffe, Canary Islands, and came from the Hijueta or branch botanical garden at Orotava, July 8, 1925. The seeds of this form, which are produced in great abundance, are exported from Teneriffe to Europe, where strains of peculiarly vigorous plants are produced from them.

64923. *GENISTA MONOSPERMA* (L.) Lam. Fabaceae.

No. 150. From the old Perez garden, now the Hotel Victoria, Orotava, Teneriffe, Canary Islands.

An ornamental leguminous shrub, native to Spain, about 10 feet high with slender grayish branches and small, very narrow leaves. The fragrant white flowers are in short lateral racemes.

For previous introduction, see S. P. I. No. 51145.

64924. to 64926. *GENISTA MONOSPERMA* (L.) Lam. Fabaceae.

A remarkable leguminous shrub with white fragrant flowers. This variety is used as a sand binder on the dunes near Mogador, Morocco.

64924. No. 37. From bushes near Mogador, June 2, 1925.

64925. No. 37a. Presented by Louis Beauchamp, chef des eaux et forêts, Mogador, June 4, 1925.

64926. Growing beside the road to Boulhout near its junction with the Rabat-Casa Blanca highway, Morocco, May 8, 1925.

64927. *GENISTA SPHAEROCARPA* Lam. Fabaceae.

No. 4. Demnat, Morocco, May 31, 1925. A charming drooping desert shrub covered with delicate brilliant yellow flowers somewhat resembling small orchids.

For previous introduction, see S. P. I. No. 63977.

64928. *GYMNOSPORIA CASSINOIDES* (L'Her.) Masf. Celastraceae.

No. 132. Presented by Juan Bolinaga, Directeur du Jardin de Acclimatation, Orotava, Teneriffe, Canary Islands, July, 1925.

A spiny shrub of rigid habit with small leathery leaves and inconspicuous whitish flowers; of possible value for hedges in the Southern States. Native to Madeira.

64929. *HABENARIA* sp. Orchidaceae.

No. 123. A terrestrial orchid growing on rocky dry places, near San Andres, Palma, Canary Islands, July 18, 1925.

64930. *HEDYSARUM CORONARIUM* L. Fabaceae.

No. 97. Amismiz, Morocco, June, 1925.

A perennial or biennial European plant, 2 to 4 feet high, with odd-pinnate foliage and axillary racemes of deep-red fragrant flowers.

64931. *HEDYSARUM SPINOSISSIMUM* L. Fabaceae.

No. 17. Found in the dry soil along a small "oued" or stream near Marrakesh on the road to Asni, May 28, 1925.

A low-growing annual plant with numerous stems sometimes over a foot

64907 to 65000—Continued.

long. The lower leaves are in a basal rosette. The pink or purplish flowers are in short racemes. Native to dry places in the Mediterranean countries.

64932. *HIPPOCREPIS SCABRA* DC. Fabaceae.

No. 8. Near Amismiz, Morocco, May 19, 1925.

A herbaceous perennial leguminous plant, with axillary nodding yellow flowers, native to the western Mediterranean region. The leaves are unequally pinnate.

64933. *IRIS* sp. Iridaceae.

No. 10. Found on the roadside between Casa Blanca and Fedhala, Morocco, May 10, 1925.

64934. *JASMINUM ODORATISSIMUM* L. Oleaceae.

No. 142. From the park at Icod, Tenerife, Canary Islands, July, 1925. A beautiful yellow flowering variety, native to Tenerife, which forms a large and attractive shrub.

For previous introduction, see S. P. I. No. 43804.

64935. *LAVATERA CRETICA* L. Malvaceae.

No. 135. A small plant with narrow deep-pink striped petals growing as a weed near Ronda, on the road to Grazalema, Spain, July 1, 1925.

64936. *LENTILLA LENS* (L.) W. F. Wight (*Lens esculenta* Moench.), Fabaceae. Lentil.

No. 147. This native variety of lentil was presented by Julio Cutillas, of Santa Cruz, Palma, Canary Islands, July 18, 1925.

64937. *LEUCOJUM TRICHOPHYLLUM* Schousb. Amaryllidaceae.

No. 35. Collected on the road between Casa Blanca and Fedhala, Morocco, May 10, 1925.

This graceful bulbous plant, 2 feet high, with its white hanging flowers, three or four on each stem, gives a delicate touch to the border. (Note under S. P. I. No. 64087 by Doctor Fairchild.)

64938. *LIMONIUM* sp. Plumbaginaceae.

No. 14. A large-growing species found near Agadir en route to Mogador, June 8, 1925.

64939. *LIMONIUM* sp. Plumbaginaceae.

No. 87. Collected in the Forest of Mamora, near Rabat, Morocco, June 14, 1925. A tall delicate species with a single stem from the rosette of leaves. The flowers are pale bluish white.

64940. *LOTUS BERTHOLETHI* Masf. Fabaceae.

No. 149. Obtained from Juan Bolinaga, Directeur du Jardin de Acclimatation, Orotava, Tenerife, Canary Islands, July 9, 1925. "Pigeon's Beak." This ornamental is used in hanging baskets, and the gray-green foliage sets off the attractive scarlet flowers.

64941. *LOTUS CYTISOIDES* L. Fabaceae.

No. 148. Collected in the cork-oak forest near Ronda, Spain, July 1, 1925.

64907 to 65000—Continued.

A perennial prostrate or ascending herbaceous plant, native to the Mediterranean countries. The stems are up to a foot and a half long, and the flowers are orange-yellow.

For previous introduction, see S. P. I. No. 51860.

64942. *LUPINUS TERMIS* Forsk. Fabaceae. Lupine.

No. 144. Barranco de la Galga, Palma, Canary Islands, July 20, 1925. The "chocho" of the Canary Islands is an unusually vigorous tall-growing species which is grown to enrich the soil on the terraces of the barrancos of Palma and the other islands. It is fed to stock after being soaked in cold water for 24 hours.

For previous introduction, see S. P. I. No. 52172.

64943. *MANDEVILLA SUAVEOLENS* Lindl. Apocynaceae.

No. 121. Presented by Juan Bolinaga, Directeur du Jardin de Acclimatation, Orotava, Tenerife, Canary Islands, July 8, 1925. A superb fragrant white-flowered climber which can be grown in the tops of high trees and on pergolas. The flowers are 2 inches long and resemble those of the jasmine.

For previous introduction, see S. P. I. No. 33984.

64944. *MATTHIOLA PARVIFLORA* (Schousb.) R. Br. Brassicaceae.

No. 101. From the road between Marakesh and Mogador, June, 1925. A desert relative of the common stock (*Matthiola bicornis*) which may have value for breeding purposes.

A purple-flowered annual plant about 6 inches high, which blooms in July.

64945 to 64952. *MEDICAGO* spp. Fabaceae.

64945 to 64947. *MEDICAGO LACINIATA* (L.) Mill.

An annual medick with upright or ascending habit, about 6 inches high, native to the Mediterranean countries.

64945. No. 43. From the road between Casa Blanca and Marakesh, May 13, 1925.

64946. No. 82. From the cultivated fields in the Barranco de las Augustias, near the caldera or old crater above the town of Los Llanos, Palma, Canary Islands, July 16, 1925.

64947. From the Barranco de las Augustias, July 16, 1925.

64948 to 64951. *MEDICAGO LITTORALIS* Rhode.

An annual leguminous plant, usually prostrate in habit, with stems up to a foot and a half long, branched from the base. Native to sandy places in the Mediterranean region.

64948. No. 1. Near the Pont des Espagnole, on the road between Casa Blanca and Fedhala, May 10, 1925.

64949. No. 36. Near Marabout, above Sale, Morocco, May 5, 1925. Growing on shell sand near cliffs swept by salt spray.

64907 to 65000—Continued.

64950. No. 62. A nearly spineless form from the road between Fedhala and Casa Blanca, May 10, 1925.

64951. No. 79. Growing on dry rocky soil near Icod, Teneriffe, Canary Islands, July 10, 1925.

64952. *MEDICAGO SOLEIROLII* Duby. Fabaceae.

No. 2. Collected on the road between Rabat and Casa Blanca, May 9, 1925. A spineless annual bur clover with rather large spineless pods; a vigorous grower and adapted to very dry roadside conditions and a region of winter rainfall.

For previous introduction, see S. P. I. No. 31007.

64953 and 64954. *MELICA CUPANI* Guss. Poaceae. Grass.

64953. No. 26. Collected between Mogador and Marrakesh, Morocco, May 17, 1925. A grass with tall dense heads, growing under the protection of *Ziziphus lotus* growth which keeps the goats from destroying it. This variety seems to thrive in hard baked clay soil.

64954. No. 86. A tall-growing species found on the sun-baked soil by the roadside, between Marrakesh and Mogador, Morocco, May 22, 1925.

64955. *MELILOTUS SPECIOSA* Durieu. Fabaceae.

No. 107. From a few plants along the railroad between Rabat and Sale, Morocco, near the bridge across the Bou Regreg River, June 14, 1925. A vigorous plant which should have distinct value as a forage when grown in a region of light rainfall (19 inches annual), moderately high temperatures (maximum 115° and minimum 27° F.), and a soil of stiff clay. The plant grows to a height of about 4 feet and carries a good quantity of leaves.

64956. *MORUS NIGRA* L. Moraceae. Black mulberry.

No. 134. From Barranco Ruis, Orotava, Teneriffe, Canary Islands, July 11, 1925. A black mulberry which has grown wild on Teneriffe in the barrancos and bears immense quantities of deliciously acid fruits.

For previous introduction, see S. P. I. No. 41459.

64957. *MUSCARI* sp. Liliaceae. Grape hyacinth.

No. 102. From Ito Plateau, near Azrou, Morocco, June 17, 1925. A species peculiar to the Middle Atlas Mountains, found at an altitude of 1,300 meters.

A spring-blooming bulbous plant with blue or white flowers in racemes or spikes.

64958. *MYOPORUM INSULARE* R. Br. Myoporaceae.

No. 92. Presented by M. Pochon, Jardin d'Acclimatation, Rabat, Morocco, May, 1925. An Australian tree which has come to be widely used in Morocco as a windbreak and a hedge plant near the sea, as it withstands the salt air well. The evergreen foliage presents a pleasing appearance.

64907 to 65000—Continued.

64959. *NERIUM OLEANDER* L. Apocynaceae. Oleander.

No. 96. Seeds from a wild form growing in the Sous Valley, near Agadir, Morocco, June 7, 1925. It may be worth testing for drought resistance and for resistance to scale infestation.

64960. *OCOTEA FOETENS* (Ait.) Benth. and Hook. Lauraceae.

From trees near Moya, Canary Islands, July 27, 1925. The "til" tree of the Canary Islands is a species which is rapidly disappearing. It has beautiful glossy evergreen leaves and attractive fruits. The handsome dark wood is used for cabinetwork.

For previous introduction, see S. P. I. No. 31903.

64961. *OCHNA MULTIFLORA* DC. Ochnaceae.

No. 128. From the old garden of the famous botanist Wildpret at Orotava, Teneriffe, Canary Islands, July 11, 1925. An extremely ornamental low-growing shrub with purple berries which are borne on a red receptacle.

64962. *ADENOCARPUS FOLIOLOSUS* (Dryander) DC. Fabaceae.

No. 124. A yellow-flowered ornamental shrub growing along the road to Monte de las Lomitas, near San Andres, Palma, Canary Islands, July 19, 1925.

64963. *ORCHIS PAPILIONACEA* L. Orchidaceae.

No. 38. Found in a Berber cemetery, near Amismiz, in the Great Atlas Mountains, south of Marrakesh, Morocco, May 30, 1925. A terrestrial orchid, about 18 inches high, which grows in soil that bakes as hard as a brick before the last of May. This variety produces tubers the size of a pigeon's egg, also attractive red flowers.

64964. *ORNITHOPUS COMPRESSUS* L. Fabaceae.

No. 89. Collected between Casa Blanca and Fedhala, Morocco, May 10, 1925. A forage legume which seems to be a rather constant factor in the pastures of Morocco, Spain, and the Canary Islands.

A slender spreading annual plant with pinnate leaves and very small yellow flowers.

64965. *PANDOREA AUSTRALIS* (R. Br.) Spach (*Tecoma australis* R. Br.). Bignoniaceae.

No. 141. From the Santa Brigida Hotel gardens, Monte, Grand Canary, Canary Islands, July 23, 1925.

An evergreen climbing shrub with glossy dark-green odd-pinnate leaves and yellowish flowers with violet spots in the throat. Native to Australia.

For previous introduction, see S. P. I. No. 46384.

64966. *PAPAVER* sp. Papaveraceae. Poppy.

No. 138. A dwarf form of very delicate habit with peculiarly brilliant scarlet flowers, inhabiting the dry talus of lava rocks in the caldera (dry crater) of the extinct volcano near Los Llanos, Palma, Canary Islands, July 16, 1925.

64907 to 65000—Continued.

64967. *PERSEA INDICA* (L.) Spreng. Lauraceae.

No. 165. Collected in private gardens at Las Palmas, Grand Canary, Canary Islands, July 22, 1925. A handsome medium-sized tree native to the Canary Islands and the Azores, where it is used as a shade tree in private gardens.

For previous introduction, see S. P. I. No. 39954.

64968. *PHOENIX DACTYLIFERA* L. Phoeniceae. Date.

No. 31. Brought from Timimoun, 15 days' caravan ride from Figuif, by C. L. Fournier, of Turga, Marrakesh, Morocco, and presented by M. Savarin, May 17, 1925. This date is said to be one of the best of the Moroccan Sahara.

64969. *PODACHAENIUM EMINENS* (Lag.) Schultz-Bip (*P. paniculatum* Benth.). Asteraceae.

No. 117. A rapidly growing ornamental shrubby composite from Mexico with showy yellow flowers, found in the Jardin de Acclimatacion, Orotava, Tenerife, Canary Islands, July 12, 1925.

For previous introduction, see S. P. I. No. 43235.

64970. *PSORALEA BITUMINOSA* L. Fabaceae.

No. 143. Barranco Ruiz, Orotava, Tenerife, Canary Islands.

The tederia is a perennial plant which one finds everywhere along the roads and trails through the barrancos of the islands. On some of the terraces, where the soil is too shallow and dry for alfalfa, it is cultivated for its hay. It is said to be a splendid milk producer.

64971. *RHAMNUS CRENULATA* Ait. Rhamnaceae.

No. 125. From the Barranco de la Galga, Palma, Canary Islands, July 30, 1925. A bush 4 feet high, with large numbers of stiff short branches of a spiny character and red berries. May prove to be a valuable plant for hedges.

64972. *RHUS PENTAPHYLLA* (Jacq.) Desf. Anacardiaceae.

No. 19. Collected on the road between Rabat and Casa Blanca, May 8, 1925. A drought-resistant shrub which, when in fruit, is covered with very beautiful red berries. The trunk and roots yield a valuable tannin which is an article of export.

64973. *ROSA SEMPERVIRENS* L. Rosaceae. Rose.

No. 95. A wild white single rose found in the Oued Korifa, near Boulhout, May, 1925.

For previous introduction, see S. P. I. No. 56820.

64974. *SALVIA* sp. Menthaceae. Sage.

No. 100. A handsome light blue-flowered sage found near Rabat, Morocco, May, 1925.

64975. *SCIRPUS HOLOSCHOENUS* L. Cyperaceae.

No. 140. From the Barranco Ruiz, Orotava, Tenerife, July 10, 1925. A giant rush growing to 7 feet in height

64907 to 65000—Continued.

and used in years past by the Tenerife peasants for basket work. It is the handsomest rush I have ever seen, and it would be worth growing as an ornamental plant.

64976 to 64978. *SCORPIURUS SULCATA* L. Fabaceae.

An annual leguminous plant, native to the Mediterranean region, with one to three prostrate or ascending stems up to a foot and a half in length and simple narrow leaves. The flowers are yellow.

64976. No. 9. From an abandoned wheat field near Amismiz, Morocco, May 19, 1925.

64977. No. 93. On the road between Casa Blanca and Fedhala, Morocco, May 10, 1925.

64978. No. 108. From the side of an irrigation ditch, near Marrakesh, Morocco, May 17, 1925.

64979. *SCORPIURUS VERMICULATA* L. Fabaceae.

No. 33. Collected on the road between Casa Blanca and Fedhala, Morocco, May 10, 1925.

A trailing annual with leaves tapering into the stems and with yellow flowers. Native to the Mediterranean countries.

64980. *SECALE CEREALE* L. Poaceae. Rye.

No. 27. A high-altitude rye of Berber origin from the Atlas Mountains which Auguste Tornezy, the inspector of agriculture at Marrakesh, has found to be an unusually good forage variety. Presented by Mr. Tornezy, May 17, 1925.

64981. *SEMPERVIVUM PALMENSE* (Webb) Christ. Crassulaceae.

A remarkable species whose young rosettes of leaves look like rosebuds. Found on the dry perpendicular rocks of the caldera or old crater of the volcano near Los Llanos, Palma, Canary Islands, July 16, 1925.

64982. *SEMPERVIVUM* sp. Crassulaceae.

No. 113. From San Andres, Palma, Canary Islands, July 20, 1925. A charming species growing on the sun-baked cliffs in Palma Island. When young the plants resemble rosebuds in shape and are very attractive.

64983. *SEMPERVIVUM* sp. Crassulaceae.

No. 115. From the Barranco Ruiz, near Orotava, Tenerife, Canary Islands, July 11, 1925. A beautiful velvety leaved species which turns reddish when old and is altogether a charming form.

64984. *SOLANUM AVICULARE* Forst. f. Solanaceae.

No. 118. From the old garden of the great botanist Wildpret, Orotava, Tenerife, Canary Islands, July 11, 1925. A beautiful blue-flowered yellow-fruited shrub with lacinate leaves.

64985. *SPERGULARIA DIANDRA* Boiss. Silleneae.

No. 145. A very pretty annual with pink flowers, which stands a great deal of dry weather. This variety spreads over the ground in a mat. Found on a roadside near Ronda, Spain, July 1, 1925.

64907 to 65000—Continued.

64986 to 64988. *STIPA TORTILIS* Desf.
Poaceae. Grass.

An annual bushy grass with prostrate or ascending stems up to a foot and a half long and gray-green leaves. Native to sandy and stony places in the Mediterranean countries.

64986. No. 12. From the road between Mogador and Marrakesh, Morocco, May 17, 1925.

64987. No. 44. Collected in a wheat field, near Marrakesh, Morocco, on the road to Mogador, May 17, 1925.

64988. From the road between Mogador and Marrakesh, Morocco, May 16, 1925.

64989. *TAMARIX GALLICA* L. Tamaricaceae. Tamarisk.

No. 139. July, 1925. Var. *canariensis*. A very attractive form of the common variety which is used in the island of Teneriffe as a windbreak to protect the banana plantations.

64990 to 64997. *TRIFOLIUM* spp. Fabaceae. Clover.

64990. *TRIFOLIUM ANGUSTIFOLIUM* L.

No. 91. From the Barranco de la Galga, Palma, Canary Islands, July 20, 1925.

An annual clover, native to the Mediterranean region, with one to three prostrate or ascending stems up to a foot or more in length.

For previous introduction, see S. P. I. No. 46811.

64991. *TRIFOLIUM ISTHOCARPUM* Brot.

No. 39. From the road between Casa Blanca and Fedhala, Morocco, May 10, 1925.

A many-stemmed annual clover, about a foot high, with dense heads of pink flowers. Native to Spain and North Africa.

64992. *TRIFOLIUM STRIATUM SPINESCENS* Lange.

No. 164. From the road between Ronda and Grazalema, Spain, July 1, 1925. A tiny dwarf clover not over 4 inches high, which forms patches of considerable size in the region near Ronda.

64993 to 64995. *TRIFOLIUM TOMENTOSUM* L.

A dense low-growing annual or biennial clover with stems usually less than 8 inches long. Native to dry barren places in the Mediterranean region.

64993. No. 24. From an irrigation ditch just outside of Marrakesh, Morocco, May 17, 1925.

64994. No. 42. From the edge of an irrigation ditch near the experimental farm, Marrakesh, Morocco, May 17, 1925.

64995. No. 98. From the road between Casa Blanca and Fedhala, May 10, 1925.

64996. *TRIFOLIUM* sp.

No. 30. A dwarf clover, not over 3 inches high, which forms dense mats

64907 to 65000—Continued.

in the dry soil on the road between Rabat and Casa Blanca, Morocco, May 8, 1925.

64997. *TRIFOLIUM* sp.

No. 41. A dwarf clover, not over 5 inches high, forming patches of considerable size in the dry clay soil near Marabout, beyond Amismiz, Morocco, May 30, 1925.

64998. *TRITICUM DURUM* Desf. Poaceae. Durum wheat.

No. 34. From the experimental farm, Marrakesh, presented by Auguste Tornezy, inspector of agriculture at Marrakesh, May 17, 1925. Var. *dredria*. A native Moroccan variety which, according to Mr. Tornezy, has the advantage of keeping the birds from stealing the grain because the heads bend as they ripen, throwing the awns into an upright position which the birds do not like.

64999 and 65000. *VICIA SATIVA* L. Fabaceae. Common vetch.

64999. No. 11. From a hedgerow along the road between Tanaourt and Marrakesh, Morocco, May 17, 1925.

65000. No. 45. From wheat fields between Mogador and Marrakesh, Morocco, May 17, 1925.

65001 to 65047.

From the Mediterranean region. Collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received September, 1925. Notes by Doctor Fairchild.

65001 and 65002. *CAPSICUM ANNUUM* L. Solanaceae. Red pepper.

65001. No. 197. Obtained in the market at Inca, Majorca, Balearic Islands, August 19, 1925. A remarkable, extremely large, handsome scarlet variety of fine flavor. The pods measure 8 inches in length and 9 inches in the largest circumference. Nearly all of the seeds are located on the central placenta.

65002. No. 217. Obtained in the market at Port Mahon, Minorca, Balearic Islands. A variety of "bull-nose" pepper of unusual size, being 4 inches long and 4 inches across. It is rather too deeply lobed to be ideal in shape, nevertheless it is large enough to be quite attractive.

65003. *CISTUS CRISPUS* L. Cistaceae.

No. 158b. From the Montelirio estate near Ronda, Spain, July 1, 1925. A pink-flowered species growing with No. 158a [S. P. I. No. 65004] in cork-oak forests near Ronda.

A compact hairy shrub about 2 feet high, with sessile, very narrow leaves and three to four flowers about 2 inches across. Native to southern Europe.

65004. *CISTUS* sp. Cistaceae.

No. 158a. A beautiful white-flowered rockrose of southern Spain which covers great stretches of country in the cork-oak forests around Ronda. From the Montelirio estate near Ronda, July 1, 1925.

65005. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

No. 220. From the market at Las Palmas, Grand Canary, Canary Islands, Au-

65001 to 65047—Continued.

gust, 1925. A delicious dark-fleshed variety, perfectly round, with a thin dark-green rind.

65006. *COTYLEDON UMBILICUS* L. Crasulaceae.

No. 157. From Barranco de la Galga, Palma, Canary Islands, July 20, 1925. A plant with tubers which enable it to live on the tile roofs of houses in the dry burning summer climate of Morocco and the Canary Islands.

65007. *CUCUMIS MELO* L. Cucurbitaceae.
Melon.

No. 203. Seeds of the "Francesca" and "Valencianos" varieties of melon purchased from the seed dealer Bartolome Amengual Delmau, Palma, Majorca, Balearic Islands, August 22, 1925.

65008 to 65011. *CYTISUS* spp. Fabaceae.

65008. *CYTISUS FILIPES* Webb and Berth.

No. 167. From the Barranco de la Galga, Palma, Canary Islands, July 20, 1925. A shrub which is grown for its fragrant white flowers, on the terraces of the barrancos of the island. It resembles superficially a *Genista*.

65009. *CYTISUS PALMENSIS* (Christ) Hutchinson. Tagasaste.

No. 180b. From the hillside above Santa Cruz, Palma, Canary Islands, July 16, 1925. One of the varieties of tagasaste which is deserving of trial as a forage shrub for the cool, but not cold, regions of California and Arizona. Unless the bushes are cut they become so woody and hard that the stock refuse to eat them. The shrub, 12 feet or less in height, has long slender hairy branches, narrow leaves, silky beneath, and axillary clusters of white flowers. Native to the Canary Islands.

65010. *CYTISUS PEREZII* Hutchinson. Escabon.

No. 180a. From Osario, Terror, Grand Canary, Canary Islands, July 26, 1925. The escabon of the Canary Islanders, who grow it for firewood largely, but do not cut it for forage as they do tagasaste [S. P. I. No. 65009]. The flowers are white and are said to be fragrant. This is an ornamental of some promise.

65011. *CYTISUS STENOPETALUS* (Webb) Christ.

Nos. 151 and 152. From the old Perez garden, now part of the grounds of the Hotel Victoria, Orotava, Tenerife, Canary Islands, July 9, 1925. The "gacia" or "gacio" is a forage crop of the Canary Islands used particularly for feeding goats; it is said to induce milk production. It is a shrub or small tree, 20 feet or less in height, with crowded silky pubescent foliage and elongated racemes of bright-yellow flowers. Native to the Canary Islands.

For previous introduction, see S. P. I. No. 44832.

65012. *DOLICHOS JACQUINI* DC. (*D. lignosus* Jacq., not L.). Fabaceae.

No. 179. From an old garden wall at Chella, the old Moorish ruin of Kasba, near Rabat, Morocco, June 21, 1925.

65001 to 65047—Continued.

The profuse blooming habit and the extreme elegance of foliage make this Australian vine valuable for covering porches. It is an evergreen perennial with leaves much smaller than those of *Dolichos lablab*. The flowers are white or purplish.

For previous introduction, see S. P. I. No. 48668.

65013. *EPHEDRA ALTISSIMA* Desf. Gneta-ceae.

No. 227. Collected in an Arab cemetery near Amismiz, south of Marrakesh, Morocco, May 30, 1925.

A climbing much-branched shrub, up to 20 feet in height, with green branches resembling the stems of the horsetail (*Equisetum*), very small leaves, and berrylike scarlet fruits. Native to North Africa.

For previous introduction, see S. P. I. No. 57930.

65014. *FUCHSIA CORYMBIFLORA* Ruiz and Pav. Onagraceae.

No. 155. From the old Perez garden, now part of the grounds of the Hotel Victoria, Orotava, Tenerife, Canary Islands, July 12, 1925.

A handsome Peruvian fuchsia with large serrate taper-pointed leaves and deep-red flowers. The plant becomes tall; but requires support to attain full height, and is therefore adapted for pillars or pergolas in the warmest parts of the United States.

65015 to 65018. *GENISTA* spp. Fabaceae.

65015. *GENISTA MONOSPERMA* (L.) Lam.

No. 172. From the park at Icod, Tenerife, Canary Islands, July 9, 1925.

For previous introduction and description, see S. P. I. Nos. 64924 to 64926.

65016. *GENISTA RHODORHIZOIDES* Webb and Berth.

No. 173. From a private garden at Yaiza, Lanzarote, Canary Islands, July 30, 1925. A white-flowered fragrant shrub growing 10 to 12 feet in height when cultivated. Useful probably as a sand binder and also for forcing purposes in greenhouses because of its fragrant flowers.

65017. *GENISTA SPHAEROCARPA* Lam.

No. 159. From the hillsides near Ronda, Spain, July 1, 1925.

For previous introduction and description, see S. P. I. No. 64927.

65018. *GENISTA* sp.

No. 186. From Mercedes, Tenerife, Canary Islands, at an altitude of 2,300 feet, July 12, 1925. A leguminous shrub which may have value as a soil improver.

65019. *GOSSYPIUM* sp. Malvaceae.
Cotton.

No. 206. San Antonio, Iviza, Balearic Islands, August 14, 1925. From a single plant which most likely had escaped from some garden.

65020. *JUNIPERUS PHOENICEA* L. Pinaceae.
Juniper.

No. 207. Collected near San Giuseppe, Iviza, Balearic Islands, August 16, 1925.

65001 to 65047—Continued.

As seen in the Balearic Islands, this is a small pyramidal tree; and in the mountains of Algeria and Morocco, where the land is stony and dry, the temperature reaching over 95° F., and no rain falling during the summer, it is a spreading bushy tree. It produces an abundance of reddish brown fruits and is said to yield an aromatic resin, although I did not hear of this being collected in the regions where it grows.

For previous introduction, see S. P. I. No. 54919.

65021. LONICERA IMPLEXA Ait. Caprifoliaceae. **Honeysuckle.**

No. 193. Growing wild on the rocky hillsides at the Coll de Soller, Majorca, Balearic Islands, August 19, 1925. A rather small shrubby honeysuckle with perfoliate leaves and pink berries in the axils of the leaves.

65022. LOTUS sp. Fabaceae.

No. 183. Near Icod, Teneriffe, Canary Islands, July 10, 1925. A very deep-rooted species found on dry rocky hillsides.

65023. LYCOPERSICON ESCULENTUM Mill. Solanaceae. **Tomato.**

No. 201. From Vanalbufar, Majorca, Balearic Islands, August 22, 1925. A small round tomato, 1½ inches in diameter, of a brilliant red color and extraordinary drying qualities. The fruits, about 90 to a bunch, are strung up on threads and dried in special rooms. The semidried fruits are shipped to Spain in immense quantities. This variety has very few seeds and a strong but agreeable tomato flavor.

65024. MEDICAGO ARBOREA L. Fabaceae.

No. 221. From Barranco Simon, Minorca, Balearic Islands, August 24, 1925. This shrubby species is grown extensively, I am informed, as a hedge plant in the island of Minorca, and the branches are cut and fed to stock.

For previous introduction, see S. P. I. No. 28277.

65025 and 65026. MELILOTUS SULCATA Desf. Fabaceae.

An annual pale-green leguminous plant, upright in habit, branched from the base, and up to a foot and a half high. The flowers are small and yellow. Native to the Mediterranean countries.

For previous introduction, see S. P. I. No. 43597.

65025. No. 181. Found by the roadside between Azrou and Meknez, Morocco, June 16, 1925.

65026. No. 212. From the roadside near Soller, Majorca, Balearic Islands, August 20, 1925.

65027 and 65028. ORNITHOPUS COMPRESSUS L. Fabaceae.

A slender spreading annual plant with pinnate leaves and very small yellow flowers.

For previous introduction, see S. P. I. No. 64964.

65027. No. 154. From the fields near Algeciras, Spain, June 27, 1925.

65001 to 65047—Continued.

65028. No. 155. From the Barranco de la Galga and Punta Llama, Palma, Canary Islands, July 20, 1925.

65029. ORNITHOPUS PINNATUS (Mill.) Druce (*O. ebracteatus* Brot.). Fabaceae.

No. 161. From Monte de las Lomitas, Palma, Canary Islands, July 19, 1925. A slender-stemmed annual plant, sometimes 20 inches high, prostrate or ascending in habit, with small yellow flowers. Native to the Mediterranean region.

65030. PANCRACTIUM MARITIMUM L. Amaryllidaceae.

No. 209. From the beach at Cala Parte, near Port Mahon, Minorca, Balearic Islands, August 25, 1925. I never saw a more beautiful sight than that produced by thousands of this maritime lily growing in pure sand on the tiny beach at Cala Parte. The fragrance from these beautiful white flowers, over 2 inches long, was delightful.

65031. PERSEA INDICA (L.) Spreng. Lauraceae.

No. 169. From the old Perez garden, now a part of the grounds of the Hotel Victoria, Orotava, Teneriffe, Canary Islands.

For previous introduction and description, see S. P. I. No. 64967.

65032. PLOCAMA PENDULA Ait. Rubiaceae.

No. 185. Collected on the road to Ingenio, Grand Canary, Canary Islands, July 26, 1925. A dwarf drooping willowlike shrub, light green, which grows to an old age in the driest soils of the dry regions of the island of Teneriffe. It bears great clusters of small white berries resembling those of the mistletoe.

For previous introduction, see S. P. I. No. 55920.

65033. PSORALEA BITUMINOSA L. Fabaceae.

No. 177. Presented by Cesar Martinez Barreda, Santa Cruz, Palma, Canary Islands, July 17, 1925.

For previous introduction and description, see S. P. I. No. 64970.

65034. RUBUS DISCOLOR Weihe and Nees. Rosaceae.

No. 192. From Soller, near Palma, Majorca, Balearic Islands, August 19, 1925. A very spiny species loaded with black fruits which were rather dry but sweet. The individual fruits were round. It is inferior to our cultivated varieties, but of possible value for breeding purposes.

For previous introduction, see S. P. I. No. 42750.

65035 to 65037. SCORPIURUS spp. Fabaceae.

65035. SCORPIURUS SUBVILLOSA L.

No. 196. Collected on the road between Palma and Soller, Majorca, Balearic Islands, August 19, 1925. A decumbent or ascending annual with one to three stems up to 20 inches in length, long-stemmed simple grass-green narrow leaves, and small yellow flowers. Native to the Mediterranean countries.

65001 to 65047—Continued.

For previous introduction, see S. P. I. No. 58710.

65036. *SCORPIURUS SULCATA* L.

No. 160. From Monte de las Lomitas, Palma, Canary Islands, July 19, 1925.

For previous introduction and description, see S. P. I. No. 64976.

65037. *SCORPIURUS VERMICULATA* L.

No. 176. Collected near Algeciras, Spain, June 27, 1925.

For previous introduction and description, see S. P. I. No. 64979.

65038. *SEMPERVIVUM* sp. Crassulaceae.

No. 153. From Barranco de la Gomera, Palma, Canary Islands, July 17, 1925. A handsome species, turning a beautiful red in summer, which is worth cultivating because of its ability to grow on stone walls in southern latitudes and withstand long periods of drought. The leaves, fringed with short hairs, form a great rosette on a short stem.

65039. *SEMPERVIVUM* sp. Crassulaceae.

No. 166. A strikingly handsome species which produces rosettes of thick, fleshy, but glaucous leaves resembling half-opened rosebuds. It grows from crevices in the precipitous cliffs of the so-called Barranco de las Aguas, near Monte de las Lomitas, Palma, Canary Islands, July 19, 1925.

65040. *SONCHUS* sp. Cichoriaceae.

Nos. 170 and 171. From the old Perez garden, now part of the grounds of the Hotel Victoria, Orotava, Tenerife, Canary Islands, July 18, 1925. A large yellow-flowered species with rather succulent leaves. It is much sought after by goats.

65041 to 65044. *TRIFOLIUM* spp. Fabaceae.
Clover.65041. *TRIFOLIUM* sp.

No. 162. A species forming mats of considerable size on the cultivated terraces where barley and wheat are grown in the Barranco de la Galga, Palma, Canary Islands, July 20, 1925.

65042. *TRIFOLIUM* sp.

No. 163. A small dwarf species growing in pasture land in the hills near Algeciras, Spain, June 27, 1925.

65001 to 65047—Continued.

65043. *TRIFOLIUM* sp.

No. 210. A small dwarf clover forming a fine mat of herbage in a rather moist meadow near the torrente or dry watercourse of Molinar, near Palma, Majorca, Balearic Islands, August 21, 1925.

65044. *TRIFOLIUM* sp.

No. 214. I found the dry pasture land in the Barranco de Cala Parte, near Port Mahon, Minorca, Balearic Islands, August 25, 1925, covered with dry clover heads of this small species.

65045. *WARIONIA SAHARAE* Benth. and Coss. Asteraceae.

No. 129. Collected near Agadir, Morocco, on the road to Mogador, June 8, 1925. A very striking tree composite, native to the Sahara Desert of western Algeria and Morocco, which forms a tree 10 feet or more high and bears great yellow flowers which are almost as large as those of the artichoke.

65046 and 65047. *ZEA MAYS* L. Poaceae.
Corn.

65046. No. 182. Collected near Uga, Lanzarote, Canary Islands, July 31, 1925. The dwarf maize of Lanzarote, which I take to be a distinct race and which is practically the only variety grown on that volcanic cinder-covered island, appears to be a brachytic dwarf with stems as large in diameter as ordinary corn but only about 24 inches high. Ordinarily only a single ear of corn is borne, and its lower end is so close to the ground that it gives the impression of rising right out of the gray cinders. I was told that six months are required to produce these small ears. This corn does not appear to be of especially good quality. Lanzarote has a cool climate, there being heavy dews every night, although for two years there has been no rain.

65047. No. 219. From Las Palmas, Grand Canary, Canary Islands, July 25, 1925. A very brilliantly colored variety grown extensively all over this island of Grand Canary. It has a translucent appearance quite foreign to the corns in America. In the dry portion of the island this corn makes a stunted, slow growth, but it is not a true dwarf such as No. 182 [S. P. I. No. 65046].

INDEX OF COMMON AND SCIENTIFIC NAMES

- Acacia arabica*. See *A. scorpioides*.
scapelliformis, 64798.
scorpioides, 64663.
signata, 64799.
verniciiflua, 64806.
Adenocarpus foliolosus, 64962.
Adlay. See *Coix lacryma-jobi ma-yuen*.
Aeschynomene indica, 64616.
Agropyron ciliare, 64765.
Alangium longiflorum, 64763.
Alfalfa, *Medicago falcata*, 64634.
M. sativa, 64635.
Allium cepa, 64449.
nigrum, 64888.
Amaranthus paniculatus, 64451.
Amygdalus persica, 64812-64814.
persica nectarina, 64815, 64816.
Anchusa undulata, 64560.
Anemone chinensis, 64452.
Annona muricata, 64508.
Apple. See *Malus* spp.
paradise, *Malus pumila*, 64827.
Apricot. See *Prunus armeniaca*.
Japanese. See *P. mume*.
Aquilegia oxysepala, 64766.
Arachis hypogaea, 64503.
Argania sideroxylon. See *A. spinosa*.
spinosa, 64907.
Arisarum vulgare, 64432.
Arundinaria alpina, 64555.
Asparagus altissimus, 64549.
Asphodelus fistulosus, 64908, 64909.
Aspris sp., 64910.
Astragalus alpinus, 64617.
armeniacus, 64618.
boeticus, 64619.
cicer, 64620.
echinus, 64621.
cascapus transilvanicus, 64622.
macrocarpus, 64623.
membranaceus, 64624.
Averrhoa bilimbi, 64905.
carambola, 64906.
Balaustion pulcherrimum, 64476.
Bamboo. See the following:
Arundinaria alpina.
Cephalostachyum pergracile.
Dendrocalamus hamiltonii.
D. membranaceus.
Banana. See *Musa uranoscopus*.
Barley. See *Hordeum* spp.
Bauhinia esculenta, 64566.
Bean, common. See *Phaseolus vulgaris*.
Betula japonica, 64444.
Biarum bovei, 64433.
Bilimbi. See *Averrhoa bilimbi*.
Billardiera longiflora, 64597.
Birch. See *Betula japonica*.
Biserrula pelecinus, 64911, 64912.
Bocconia frutescens, 64913.
Bossiaea sp., 64477.
Bougainvillea spp., 64651, 64652.
Brassica sp., 64550.
Bromus sp., 64914.
Caesalpinia pectinata, 64915.
tinctoria. See *C. pectinata*.
Calothamnus chrysanthrus, 64478.
Canarina campanulata. See *C. canariensis*.
canariensis, 64916.
Canavali plagiosperma, 64511.
Candollea graminifolia, 64807.
Capsicum annuum, 64547, 65001, 65002.
Caragana sp., 64769.
pygmaea, 64768.
Carambola. See *Averrhoa carambola*.
Carex sp., 64453.
Carob. See *Ceratonia siliqua*.
Carpotroche brasiliensis, 64443.
Cassia pleurocarpa, 64479.
Cephalostachyum pergracile, 64808.
Ceratonia siliqua, 64598.
Chaenomeles superba, 64430; 64431.
Cherry. See the following *Prunus* spp.
P. glandulosa.
P. padus.
bush. See *P. tomentosa*.
European bird. See *P. padus*.
sweet. See *P. avium*.
Chorilaena quercifolia, 64480.
Cistus sp., 65004.
crispus, 65003.
Citron, fingered. See *Citrus medica sarcodactylis*.
Citrullus vulgaris, 64869; 64870, 65005.
Citrus spp., 64606, 64894-64896.
aurantifolia, 64603.
decumana. See *C. grandis*.
grandis, 64429, 64604, 64607-64612.
medica sarcodactylis, 64605.
nobilis deliciosa, 64613-64615, 64845-64851.
sinensis, 64852-64854, 64893.
Clover. See *Trifolium* spp.
subterranean. See *T. subterraneum*.
Coix lacryma-jobi ma-yuen, 64499-64501, 64599-64601, 64664.
Columbine. See *Aquilegia* sp.
Combretum coccineum, 64536.
Corn. See *Zea mays*.
Cotton. See *Gossypium* spp.
Cotyledon umbilicus, 64917, 65006.
Crab apple. See *Malus* spp.
Crotalaria spp., 64512, 64533, 64534.
dilloniana, 64535.
intermedia, 64532.
juncea, 64531.
Crowea angustifolia, 64481.
Cryptostegia madagascariensis, 64655.
Cucumis melo, 64871-64875, 65007.
Cuphea balsamona, 64537.
Currant. See *Ribes* spp.
Cyanostegia angustifolia, 64482.
Cydonia oblonga, 64817, 64818.
Cytisus filipes, 65008.
palmensis, 65009.
perezii, 65010.
stenopetalus, 65011.
Dahlia sp., 64518.
Danthonia pilosa, 64527.
Datura sp., 64918.
Deguelia trifoliata, 64602.
Dendrocalamus hamiltonii, 64809.
membranaceus, 64810.
Derris uliginosa. See *Deguelia trifoliata*.
Dioscorea spp., 64656-64660.
Diospyros kaki, 64819-64821.
Dolichos jacquinii, 65012.
lignosus. See *D. jacquinii*.
Dwarf pea tree. See *Caragana pygmaea*.
Ebenus pinnata, 64919.
Echium fastuosum, 64920.
simplex, 64921.
Elaeagnus philippensis, 64762.
philippinensis. See *E. philippensis*.
Elder. See *Sambucus* spp.
Eleusine coracana, 64522.
Elm. See *Ulmus* spp.
Elymus spp., 64627, 64628.
dahuricus, 64625.
caeruleus, 64626.
Ephedra altissima, 65013.
Eriobotrya japonica, 64822-64825.
Erodium sp., 64770.

- Escabon. See *Cytisus perezii*.
Eucalyptus delegatensis, 64666.
- Falcata japonica*, 64454.
Festuca ovina, 64771.
rubra, 64855.
Ficus carica, 64826.
Fig. See *Ficus carica*.
Fragaria spp., 64505, 64506, 64539, 64856.
Fuchsia corymbiflora, 65014.
speciosa, 64922.
Funtumia elastica, 64541.
- Garcinia mangostana*, 64519.
Genista sp., 65018.
monosperma, 64923-64926, 65015.
rhodorrhizoides, 65016.
sphaerocarpa, 64927, 65017.
- Gladiolus* spp., 64647, 64897-64904.
byzantinus, 64434.
callistus, 64653.
recurvus, 64654.
- Glycine hispida*. See *Soja max*.
Gossypium spp., 64502, 64509, 64545, 64546, 65019.
arborescens, 64889.
barbadense, 64498, 64543, 64544.
herbaceum, 64890, 64891.
hirsutum, 64450.
obtusifolium, 64892.
- Grape. See *Vitis* spp.
Grapefruit. See *Citrus grandis*.
Grape hyacinth. See *Muscari* sp.
Grass, blue. See *Poa pratensis*.
fowl meadow. See *Poa palustris*.
Natal. See *Tricholaena rosea*.
perennial rye. See *Lolium perenne*.
red fescue. See *Festuca rubra*.
sheep fescue. See *Festuca ovina*.
Sudan. See *Holcus sorghum sudanensis*.
- See also:
Agropyron ciliare.
Aspris sp.
Bromus sp.
Danthonia pilosa.
Elymus spp.
Festuca ovina.
F. rubra.
Hierochloe glabra.
Hordeum violaceum.
Lolium rigidum.
Melica cupani.
M. gmelini.
Miscanthus sacchariflorus.
Neyraudia madagascariensis.
Poa spp.
Puccinellia distans.
Stipa tortilis.
- Guava. See *Psidium guajava*.
Gymnosporia cassinoides, 64928.
- Habenaria* sp., 64929.
Hakea laurina, 64483.
multilincata, 64484, 64485.
- Hedysarum capitatum*, 64553.
coronarium, 64930.
pallidum, 64554.
spinosissimum, 64931.
- Helianthus tuberosus*, 64513, 64588.
Helipterum rubellum, 64486.
Heterospathe elata, 64595.
Hevea brasiliensis, 64542.
Hierochloe glabra, 64455, 64456.
Hippocrepis scabra, 64932.
Holcus sorghum sudanensis, 64528.
Honeysuckle. See *Lonicera* spp.
Hordeum sp., 64524.
violaceum, 64772.
vulgare nigrum, 64876.
vulgare pallidum, 64523, 64877, 64878.
- Hovea elliptica*, 64487.
- Illecebrum verticillatum*, 64548.
Iris spp., 64438, 64439, 64933.
alata, 64435.
fontanesii, 64436.
tingitana, 64437, 64565.
- Isopogon asper*, 64800.
- Jasminum odoratissimum*, 64934.
Jerusalem artichoke. See *Helianthus tuberosus*.
Juniper. See *Juniperus phoenicea*.
Juniperus phoenicea, 65020.
- Kaki. See *Diospyros kaki*.
Kunzea sericea, 64488.
- Lathyrus ensifolius*. See *L. filiformis bauhini*.
filiformis bauhini, 64629.
inconspicuus, 64630.
- Lavatera* sp., 64561.
cretica, 64935.
- Lens esculenta*. See *Lentilla lens*.
Lentil. See *Lentilla lens*.
Lentilla lens, 64936.
Leptospermum roei, 64801.
Leucosium autumnale, 64440.
trichophyllum, 64937.
- Leucopogon verticillatus*, 64489.
Lilium sp., 64764.
concolor buschianum, 64774.
tenuifolium, 64773.
- Lily. See *Lilium* sp.
Lime. See *Citrus aurantifolia*.
Limonium spp., 64938, 64939.
Lolium perenne, 64631.
rigidum, 64632.
- Lonicera* sp., 64797.
implexa, 65021.
praeiflorens, 64457, 64458.
- Loquat. See *Eriobotrya japonica*.
Lotus spp., 64520, 65022.
bertholetii, 64940.
cytisoides, 64941.
hispidus, 64633.
- Lupine. See *Lupinus termis*.
Lupinus termis, 64942.
Lycopersicon esculentum, 65023.
- Malcomia littorea*, 64562.
Malope sp., 64563.
Malus spp., 64833, 64834, 64857.
pumila, 64827.
sylvestris, 64828-64832.
- Mandevilla suaveolens*, 64943.
Mangosteen. See *Garcinia mangostana*.
Marianthus erubescens, 64490.
Matthiola parviflora, 64944.
Medicago arborea, 65024.
falcata, 64634.
laciniata, 64945-64947.
littoralis, 64948-64951.
sativa, 64635.
soleirolii, 64952.
- Melaleuca* sp., 64492.
cordata, 64802.
holosericea, 64803.
longicoma, 64804.
violacea, 64491.
- Melica cupani*, 64953, 64954.
gmelini, 64775.
- Melilotus speciosa*, 64955.
sulcata, 65025, 65026.
- Melon. See *Cucumis melo*.
Mimusops zeyheri, 64510.
- Miscanthus sacchariflorus*, 64636.
Morus nigra, 64956.
- Mulberry, black. See *Morus nigra*.
Musa coccinea. See *M. uranoscopus*.
uranoscopus, 64673.
- Muscari* sp., 64957.
Myoporum insulare, 64958.
Myrica rubra, 64568.
- Narcissus viridiflorus*, 64441.
Nectarine. See *Amygdalus persica nectarina*.
Nerium oleander, 64959.
Neyraudia madagascariensis, 64667.
- Ochna multiflora*, 64961.
Ocotea foetens, 64960.
- Oleander. See *Nerium oleander*.
Omphalea oleifera, 64557, 64811.
Onion. See *Allium cepa*.
Onobrychis caput-galli, 64637.

- Orange, mandarin. See *Citrus nobilis deliciosa*.
 sweet. See *C. sinensis*.
Orchis papilionacea, 64963.
Ornithopus compressus, 64964, 65027, 65028.
ebracteatus. See *O. pinnatus*.
pinnatus, 64638, 65029.
Oxytropis oxyphylla, 64767.
 Palm. See *Heterospathes elata*.
 date. See *Phoenix dactylifera*.
Pancratium maritimum, 65030.
Pandorea australis, 64965.
Panicum miliaceum, 64459, 64460.
 Papaver sp., 64966.
nudicaule, 64776.
 Peach. See *Amygdalus persica*.
 Peanut. See *Arachis hypogaea*.
Pentzia incana, 64649.
virgata. See *P. incana*.
 Pepper, red. See *Capsicum annum*.
Persea indica, 64967, 65031.
Phaseolus vulgaris, 64639.
Phebalium tuberculatum, 64493.
Phoenix dactylifera, 64777, 64968.
 Pine. See *Pinus* spp.
Pinus montana pumilio, 64843.
montana uncinata, 64844.
Pisum elatius, 64640.
Pityrodia teckiana, 64494.
Plocama pendula, 65032.
 Plum. See *Prunus* spp.
Poa spp., 64461, 64529.
chaixii, 64778, 64779.
nemoralis, 64780, 64858.
palustris, 64781.
pratensis, 64782-64784.
sphondylodes, 64785, 64786.
Podachaenium eminens, 64969.
paniculatum. See *P. eminens*.
 Poppy. See *Papaver* spp.
 Poplar. See *Populus suaveolens*.
Populus suaveolens, 64787.
 Potato. See *Solanum tuberosum*.
Prinsepia sinensis, 64879.
 Proso. See *Panicum miliaceum*.
Prosopis nandubey, 64556.
Prunus spp., 64446, 64448, 64462, 64839-64842.
armeniaca, 64648, 64788, 64789, 64835-64838, 64880-64886.
avium, 64790.
incisa, 64669.
japonica, 64445.
mume, 64569-64582.
padus, 64791.
persica. See *Amygdalus persica*.
salicina, 64583, 64584.
tomentosa, 64665.
Psidium guajava, 64559.
Psoralea bituminosa, 64521, 64970, 65033.
Puccinellia distans, 64792, 64793.
 Quince. See *Cydonia oblonga*.
 Radish. See *Raphanus sativus*.
 Ragl. See *Eleusine coracana*.
Raphanus sativus, 64596.
 Raspberry. See *Rubus* spp.
 Siberian. See *R. crataegifolius*.
 Red elder. See *Sambucus* spp.
Rhamnus crenulata, 64971.
Rhus pentaphylla, 64972.
Ribes spp., 64859-64861.
diacantha, 64794.
Rosa sp., 64447.
sempervirens, 64973.
 Rose. See *Rosa* spp.
 Rubber tree, Lagos. See *Funtumia elastica*.
Rubus spp., 64585, 64862-64864.
crataegifolius, 64887.
discolor, 65034.
 Rye. See *Secale cereale*.
Saccharum officinarum, 64507, 64514, 64517, 64567, 64670-64672, 64750-64761.
 Sage. See *Salvia* sp.
Salvia sp., 64974.
coccinea pseudococcinea, 64668.
Sambucus sp., 64795.
racemosa, 64865.
Scilla peruviana, 64442.
Scirpus holoschoenus, 64975.
Scorpiurus subvillosa, 65035.
sulcata, 64976-64978, 65036.
vermiculata, 64979, 65037.
Secale cereale, 64980.
 Sedge. See *Carex* sp.
Sempervivum spp., 64982, 64983, 65038, 65039.
canariense, 64593.
palmense, 64981.
 Shaddock. See *Citrus grandis*.
Sida calyxyhymenia, 64495.
Soja max, 64589-64591, 64641, 64674-64749.
Solanum sp., 64661.
aviculare, 64984.
tuberosum, 64587, 64662.
Sonchus sp., 65040.
 Soursop. See *Annona muricata*.
 Soy bean. See *Soja max*.
Spergularia diandra, 64985.
Spiraea sp., 64976.
media, 64866.
 Spirea. See *Spiraea* spp.
Stipa tortilis, 64986-64988.
 Strawberry. See *Fragaria* spp.
Stylidium graminifolium. See *Candollea graminifolia*.
 Sugar cane. See *Saccharum officinarum*.
 Sunn hemp. See *Crotalaria juncea*.
 Tagasaste. See *Cytisus palmensis*.
 Tamarisk. See *Tamarix gallica*.
Tamarix gallica, 64594, 64989.
Tecoma australis. See *Pandorea australis*.
Templetonia retusa, 64805.
Thomasia brachystachys, 64496.
 Tomato. See *Lycopersicon esculentum*.
Tricholaena rosea, 64642.
Trifolium spp., 64564, 64996, 64997, 65041-65044.
angustifolium, 64990.
isthmocarpum, 64991.
maritimum, 64643.
pratense, 64644.
stellatum, 64645.
striatum spinescens, 64992.
subterraneum, 64530, 64592.
tomentosum, 64993-64995.
Trigonella caerulea, 64646.
Triticum aestivum, 64525, 64540, 64551, 64586.
durum, 64998.
vulgare. See *T. aestivum*.
Trymalium billardieri, 64497.
Ulmus japonica, 64466, 64467.
laciniata, 64472.
macrocarpa, 64463.
pumila, 64464, 64465, 64468-64471, 64504.
Vaccinium sp., 64868.
vitis-idaea, 64867.
 Vetch, common. See *Vicia sativa*.
Vicia sativa, 64999, 65000.
Viola sp., 64475.
collina, 64474.
variegata, 64473.
 Violet. See *Viola* spp.
Viola guatemalensis, 64558.
Vitis sp., 64538.
vinifera, 64650.
 Warionia saharae, 65045.
 Watermelon. See *Citrullus vulgaris*.
 Wheat, common. See *Triticum aestivum*.
durum. See *T. durum*.
 Yam. See *Dioscorea* spp.
Zea mays, 64526, 64552, 65046, 65047.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

November, 1927

<i>Secretary of Agriculture</i> -----	W. M. JARDINE.
<i>Assistant Secretary</i> -----	R. W. DUNLAP.
<i>Director of Scientific Work</i> -----	A. F. WOODS.
<i>Director of Regulatory Work</i> -----	WALTER G. CAMPBELL.
<i>Director of Extension</i> -----	C. W. WARBURTON.
<i>Director of Personnel and Business Admin- istration</i> -----	W. W. STOCKBERGER.
<i>Director of Information</i> -----	NELSON ANTRIM CRAWFORD.
<i>Solicitor</i> -----	R. W. WILLIAMS.
<i>Weather Bureau</i> -----	CHARLES F. MARVIN, <i>Chief</i> .
<i>Bureau of Animal Industry</i> -----	JOHN R. MOHLER, <i>Chief</i> .
<i>Bureau of Dairy Industry</i> -----	C. W. LARSON, <i>Chief</i> .
<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Forest Service</i> -----	W. B. GREELEY, <i>Chief</i> .
<i>Bureau of Chemistry and Soils</i> -----	H. G. KNIGHT, <i>Chief</i> .
<i>Bureau of Entomology</i> -----	L. O. HOWARD, <i>Chief</i> .
<i>Bureau of Biological Survey</i> -----	PAUL G. REDINGTON, <i>Chief</i> .
<i>Bureau of Public Roads</i> -----	THOMAS H. MACDONALD, <i>Chief</i> .
<i>Bureau of Agricultural Economics</i> -----	LLOYD S. TENNY, <i>Chief</i> .
<i>Bureau of Home Economics</i> -----	LOUISE STANLEY, <i>Chief</i> .
<i>Federal Horticultural Board</i> -----	C. L. MARLATT, <i>Chairman</i> .
<i>Grain Futures Administration</i> -----	J. W. T. DUVEL, <i>Chief</i> .
<i>Food, Drug, and Insecticide Administration</i> ---	WALTER G. CAMPBELL, <i>Director of Regulatory Work, in Charge</i> .
<i>Office of Experiment Stations</i> -----	E. W. ALLEN, <i>Chief</i> .
<i>Office of Cooperative Extension Work</i> -----	C. B. SMITH, <i>Chief</i> .
<i>Library</i> -----	CLARIBEL R. BARNETT, <i>Librarian</i> .

This inventory is a contribution from

<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief</i> .
<i>Office of Foreign Plant Introduction</i> -----	DAVID FAIRCHILD, <i>Senior Agri- cultural Explorer, in Charge</i> .

36

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
U. S. GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
5 CENTS PER COPY



UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 88



Washington, D. C.

Issued April, 1929

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, JULY 1 TO SEPTEMBER 30, 1926 (NOS. 67837 TO 68955)

CONTENTS

	Page
Introductory statement-----	1
Inventory-----	3
Index of common and scientific names-----	48

INTRODUCTORY STATEMENT

The plant material received during the summer months of 1926 covers a wide range of material from diverse parts of the world. Collections from the East Indies, made by David Fairchild, included additional cover and green-manure crops (Nos. 67838 to 67847) for testing in comparison with legumes previously introduced from this region. A pink-fleshed grapefruit (*Citrus grandis*, No. 67980) with flesh reported to be so dry that the follicles can be broken from one another and eaten from the hand was also obtained. Many tropical and subtropical trees, shrubs, and fruits (Nos. 67932 to 67941, 67982 to 67985, 67994 to 67996, 68015 to 68040, 68151 to 68153, 68295 to 68298) were included in Doctor Fairchild's collection.

P. H. Dorsett continued to collect field crops and miscellaneous native trees and ornamental shrubs in Manchuria. His introductions are represented by Nos. 67992, 68001 to 68014, 68404 to 68414, and 68420 to 68825. The greater part of these were soy-bean varieties which already, in preliminary tests in the United States, show great promise.

F. A. McClure, continuing his work in southern China, sent in a large number of varieties of rice and vegetables (Nos. 68361 to 68403, 68867 to 68907, 68913 to 68948). From the Institute of Applied Botany, at Leningrad, through A. Kol, was received a good collection of seeds of field crops and miscellaneous plants (Nos. 68054 to 68104, 68171 to 68177). Other seeds from Russia are represented by Nos. 68180 to 68293, wheat and barley, and Nos. 68158 to 68169, *Iris* spp. The collection of iris from Asia Minor (*Iris* spp., Nos. 67909 to 67921) is deserving of special mention.

Attention is called to *Macadamia ternifolia* (No. 67883) and also to the attempt to introduce a related species with a larger nut, *M. prealta* (No. 67882). The horticultural possibilities of *M. ternifolia* make it appear desirable to encourage the planting of this species as specimen trees for homeyards and also for avenue and street purposes in the warmer portions of the country. In this way superior horticultural varieties may be selected from such seedling plantings. *M. ternifolia* is a very fine specimen and avenue tree, and the fact that it is an evergreen makes it serviceable in places where such trees are preferred. Thin-shelled varieties are known to exist in Australia as individual trees, and to find such a variety is one of the objectives of large plantings in this country. Attention perhaps should be called to the fact that the area having climatic conditions suitable to species of *Macadamia* is limited and somewhat more restricted than in the case of citrus plants. However, more hardy strains than the ones already introduced may yet be found. While *M. prealta* is less well known than *M. ternifolia* and not yet established in the United States, its large nut makes it seem worth special attention by further introductions and subsequent testing.

The introduction of *Pentzia incana* under No. 67880 should again call attention to this shrub as a possible asset to the dry range area of the southwestern United States from the Panhandle of Texas south to the Rio Grande and west to the Pacific coast. It is the well-known karoo bush of the pasture lands of South Africa and affords the best dry-land reserve feed in that region. It is essentially a sheep browse and is reputed to be responsible for the fine quality of wool shipped from Africa. If it can be successfully established in our Southwest it should be a great feed insurance for drought years.

Other plants in this inventory that should be specifically mentioned on account of the results with previous introductions or their promise as indicated by their behavior in their original homes are *Telopea speciosissima* (No. 68912), *Calopogonium mucunoides* (No. 68845), *Arachis nambyquarae* (Nos. 68830 and 68831), *Populus maximowiczii* (No. 68170), and *Myoporum sandwicense* (No. 68157). The *Myoporum* is suggested for special testing in windy and exposed areas along ocean fronts where a mild climate prevails.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, and the descriptive matter has been prepared under the direction of Paul Russell, who has had general supervision of this inventory.

KNOWLES A. RYERSON,
Senior Horticulturist, in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., July 16, 1928.

INVENTORY¹

67837 to 67847.

From Buitenzorg, Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 27, 1926.

The following seeds were obtained at the tea experiment station, Buitenzorg, May 22, 1926.

67837. ACACIA VILLOSA (Swartz) Willd. Mimosaceae.

No. 803. A native of Venezuela which is used in Java for the same purpose as *Leucaena glauca*; that is, as a shade for field crops, and is preferred because of its slower growth. It is said to be used in the teak forest plantings as a permanent leguminous undershrub to add nitrogen and humus to the soil.

For previous introduction see No. 44865.

67838. ALYSICARPUS VAGINALIS NUMMULARIFOLIUS (L.) Baker. Fabaceae.

No. 808. A low creeping annual legume.

For previous introduction see No. 33640.

67839. BRADBURYA PUBESCENS (Benth.) Kuntze (*Centrosema pubescens* Benth.) Fabaceae. Butterfly pea.

No. 806. A climbing tropical American annual legume of great value in Java as a cover crop, having roots which penetrate 11½ feet into the soil in one year's time.

For previous introduction see No. 65315.

67840. CRACCA CANDIDA (DC.) Kuntze (*Tephrosia candida* DC.). Fabaceae.

No. 799. A low leguminous shrub with slender branches and large clusters of reddish or white flowers, which is used as a cover crop.

For previous introduction see No. 60642.

67837 to 67847—Continued.

67841. CRACCA NOCTIFLORA (Bojer) Kuntze (*Tephrosia noctiflora* Bojer). Fabaceae.

No. 796. A bushy brown-hairy leguminous plant which is used as a cover crop. It has compound leaves about 4 inches long and lax terminal racemes of reddish flowers which open late in the afternoon. Native to tropical Africa.

67842. CROTALARIA ALATA Buch.-Ham. Fabaceae.

No. 805. A bushy annual leguminous plant, about a foot high, with pale-yellow flowers; suitable for use as a cover crop.

For previous introduction see No. 51832.

67843. CROTALARIA USARAMOENSIS Baker f. Fabaceae.

No. 804. One of the less important cover crops. A leguminous plant which forms a dense low growth and endures partial shade.

For previous introduction see No. 64064.

67844. INDIGOFERA ENDECAPHYLLA Jacq. Fabaceae.

No. 809. A native of southern British India, which is considered one of the best cover crops used in Java on the tea estates. It roots from the internodes, as well as from the nodes, and stands drought well.

For previous introduction see No. 63605.

67845. INDIGOFERA SUFFRUTICOSA Mill. (*I. anil* L.). Fabaceae.

No. 807. A slender yellow-flowered bushy legume, 3 to 5 feet high, producing a rather scanty growth, which is not considered one of the best cover crops.

For previous introduction see No. 64036.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change, with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the specific identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in, so that definite identification can be made.

67837 to 67847—Continued.

67846. *STIZOLOBIUM VELUTINUM* (Hassk.)
Piper and Tracy. Fabaceae.

No. 802. A selected variety of the velvet bean which covers the ground in two and one-half months. It grows up to an altitude of 3,000 feet.

For previous introduction see No. 43536.

67847. *VIGNA VEXILLATA* (L.) Rich. Fabaceae.

No. 798. A South American yellow-flowered climber which is being used as a cover crop in Java.

For previous introduction see No. 48607.

67848. *ZIZIPHUS XYLOPYRUS* (Retz.) Willd. Rhamnaceae.

From Bombay, India. Seeds obtained by Wilbur Koblinger, United States consul. Received August 24, 1926.

A small thorny Indian tree, a close relative of the Chinese jujube (*Ziziphus jujuba*). In its native country, where it grows in hot dry places, the young shoots, leaves, and fruits serve as fodder for livestock, and the hard tough wood is used in making carts. The hard bony fruits inclose two or three edible kernels.

For previous introduction see No. 53593.

67849. *ZINZIBER OFFICINALE* Roscoe. Zinziberaceae. Ginger.

From Kandy, Ceylon. Tubers obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February 26, 1926. Numbered July, 1926.

No. 319. January 12, 1926. A variety grown in the vicinity of Kandy.

67850. *QUERCUS* sp. Fagaceae. Oak.

From San Jose, Costa Rica. Seeds presented by Federico Peralta, Director, San Jose Department of Agriculture. Received July 19, 1926.

A central American tree of possible value for the warmer parts of the United States.

67851. *COUSINIA* sp. Asteraceae. Taimat.

From Tangier, Morocco. Seeds presented by Moses Albert Azancot, Paseo Cenarro. Received July 23, 1926.

Taimat. This plant grows wild here around the wheat fields. The flower buds are boiled in salted water and eaten; they taste something like asparagus. The uncooked juice from the plant is used with apparent success as a substitute for rennet by the local cheese manufacturers. (*Azancot*.)

A prickly leaved thistlelike plant.

67852 to 67856.

From Yalta, Crimea, Russia. Seeds presented by Th. K. Kalajda, horticultural director, Nikta Botanic Garden. Received July 23, 1926.

Locally grown seeds.

67852 to 67856—Continued.

67852. *MELILOTUS ALBA* Desr. Fabaceae. White sweet clover.

67853. *MELILOTUS OFFICINALIS* (L.) Lam. Fabaceae. Sweet clover.

67854. *MELILOTUS TAURICA* (Bieb.) Se-
ringe. Fabaceae. Sweet clover.

67855. *TRIFOLIUM ARVENSE* L. Fabaceae. Clover.

67856. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

67857 to 67863. *TRIFOLIUM RESUPINATUM* L. Fabaceae. Persian clover.

From Leningrad, Russia. Seeds presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received August 3, 1926.

A small prostrate annual clover common in the vicinity of Cairo, Egypt; usually found in heavy soils.

67857. No. 2525. 67861. No. 3287.

67858. No. 2526. 67862. No. 3701.

67859. No. 2537. 67863. No. 4155.

67860. No. 2541.

67864 to 67879. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

From Melbourne, Victoria, Australia. Seeds presented by H. A. Mullett, superintendent of agriculture. Received July 15, 1926.

67864. *Confederation*. 67872. *Omrah*.

67865. *Free Gallipoli* 67873. *Rajah*.
No. 58.

67874. *Rajah Seln*.

67866. *Ghurka*. 67875. *Ranee*.

67867. *Mac's White*. 67876. *Sepoy*.

67868. *Mahratta*. 67877. *Sterling* (78
A).

67869. *Marmora*. 67878. *Turvey*.

67870. *Mogul*. 67879. *Wannon*.

67880. *PENTZIA INCANA* (Thunb.) Kuntze (*P. virgata* Less.). Asteraceae.

From Cape Province, Union of South Africa. Seeds presented by George A. Gill, principal, Grootfontein School of Agriculture, Middleburg. Received July 28, 1926.

A low-growing, spreading bush which layers naturally when the tips of its branches arch over and touch the ground. In the eastern Provinces of Cape Colony, where the rains occur in summer but where long, severe droughts are frequent, this is one of the most valuable of all the karoo plants for fodder purposes. It is especially good for sheep and goats, which eat it down almost to the ground. (*Note by David Fairchild under No. 10635.*)

For previous introduction see No. 64649.

67881 to 67883.

From Dundas, New South Wales, Australia. Seeds presented by Herbert J. Rumsey. Received August 9, 1926.

67881 to 67883—Continued.

67881. *HICKSBEACHIA PINNATIFOLIA* F. Muell. Proteaceae.

This tree, native to New South Wales, grows to a height of 30 to 40 feet, and the fruit is borne in racemes, attached to the bark and branches of the tree. Each raceme consists of 10 or 12 fruits. The flavor is not quite so good as the Queensland nut, *Macadamia ternifolia*, nor does it keep so well, but nevertheless they are sold in some fruit shops in New South Wales.

For previous introduction see No. 39871.

67882. *MACADAMIA PREALTA* (F. Muell.) F. M. Bailey. Proteaceae.

An evergreen tree, sometimes as much as 100 feet tall, with narrow leathery shining-green leaves about 7 inches long and smooth hard nuts about an inch in diameter which are said to be edible. Native to Queensland and New South Wales, Australia.

67883. *MACADAMIA TERNIFOLIA* F. Muell. Proteaceae.

Var. *integrifolia*. A form of the so-called Queensland nut which has entire leaves. The typical form is a large evergreen tree with narrowly oblong leaves in whorls of three or four and thick-shelled edible nuts an inch in diameter.

For previous introduction see No. 44769.

67884 to 67889.

From San Juan, Porto Rico. Seeds and bud wood presented by O. W. Barrett, agricultural director, Department of Agriculture and Labor. Received August 3, 1926.

67884 to 67887. *CITRUS* spp. Rutaceae.

Varieties grown in Porto Rico.

67884 and 67885. *CITRUS AURANTIUM* L. Sour orange.

67884. Reg. *Seville*.

67885. *Spineless*.

67886. *CITRUS BERGAMIA* Risso. Bergamot.

Bergamote cordoba.

67887. *CITRUS LIMONIA* Osbeck. Lemon.

Tusk lemon.

67888. *MEIBOMIA RENSONI* Painter. Fabaceae.

The *barajillo* is a rapid-growing shrub, which, as described in the Revista de Agricultura Tropical, Salvador (vol. 1, p. 65), is found in Salvador at altitudes of 2,000 to 4,000 feet. The trifoliate leaves are softly hairy and up to 3½ inches in length, and the small purplish flowers are borne in terminal racemes late in October. The roots of the *barajillo* are very large and penetrate deeply into the soil; the tubercles formed by the nitrogen-gathering bacteria are usually found only on the upper third of the root. Cattle are exceedingly fond of this plant; furthermore, it endures prolonged drought and thrives in very poor soil.

For previous introduction see No. 55446.

67884 to 67889—Continued.

67889. *TERAMNUS LABIALIS* (L.) Spreng. Fabaceae.

A slender leguminous tropical American vine, used as forage in St. Thomas, Virgin Islands. (Barrett.)

67890 to 67893.

From Avondale, Auckland, New Zealand. Seeds presented by H. R. Wright. Received July 29, 1926.

67890. *CORYNOCARPUS LAEVIGATA* Forst. Corynocarpaceae. Karaka.

The karaka is a large, handsome New Zealand tree, with a round crown and glossy laurellike leaves 3 to 7 inches long. The small white flowers are in erect panicles about 4 inches long, and the extremely poisonous orange fruits are oblong and about an inch in length. The kernel of the fruits, however, is not poisonous, and was one of the staple articles of diet of the Maoris, the original inhabitants of New Zealand.

For previous introduction see No. 46764.

67891 and 67892. *HOHERIA POPULNEA* A. Cunn. Malvaceae.

67891. A small ornamental tree or large shrub, up to 30 feet high, with leaves varying in shape from broadly oval and deeply toothed to long and narrow, and attractive snow-white flowers borne in great profusion in axillary clusters. Native to New Zealand, where the white tough wood is sometimes used by cabinetmakers.

For previous introduction see No. 45094.

67892. Var. *Osbornei*. Differs from the normal form in having blue instead of white stamens.

67893. *NAGEIA FERRUGINEA* (G. Benn.) Kuntze (*Podocarpus ferruginea* G. Benn.). Taxaceae. Miro.

A large evergreen tree from New Zealand with gray or blackish bark, which peels off in large flakes, and small narrow pointed leaves arranged in two rows on the branches. The bright-red fruits, the size of small plums, have the taste and odor of turpentine, but are eaten eagerly by the native pigeons.

For previous introduction see No. 44851.

67894 to 67896.

From Stockholm, Sweden. Seeds presented by Dr. Eric Hulten, Stockholm, through David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received August 13, 1926.

67894. *BETULA ERMANI* Champ. Betulaceae. Birch.

No. 915, July 22, 1926. Collected during 1925 by Doctor Hulten at the botanic gardens, Leningrad, Russia. According to the collector this birch covers considerable areas in Kamchatka, where it is native. The tree is rather low growing, and owing to its hardiness it deserves to be tested in the extreme North. The trunk is white and the branches orange or yellowish. The broadly oval, coarsely toothed leaves are hairy when young.

67894 to 67896—Continued.

67895. *HEDYSARUM HEDYSAROIDES* (L.) Stuntz (*H. obscurum* L.). Fabaceae.

No. 916. July 22, 1926. Collected during 1919 near the mouth of the Kamchatka River by Doctor Hulten. A hardy herbaceous ornamental perennial native to the alpine regions of central Europe. It is about a foot high and produces spikes of purple flowers in mid-summer.

67896. *LONICERA CAERULEA EDULIS* (Turcz.) Regel. Caprifoliaceae. Honeysuckle.

No. 914. July 22, 1926. Collected in Kamchatka by Doctor Hulten. An erect or spreading hardy shrub about 5 feet high, native to northeastern Asia. The oblong or lanceolate pubescent leaves are up to 2 inches long, and the oblong edible blue berries are sweet and are used for making excellent jam.

67897 to 67904.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received August 24, 1926.

67897. *ALTINGIA EXCELSA* Noronha. Hamamelidaceae.

A magnificent tree of the tropical evergreen forests of the Indian archipelago and northeastern India. In Java it yields in small quantity an odorous medicinal resin known in Europe as "storax," which is obtained by incisions in the trunk; the tree is not regularly cultivated. The soft reddish gray wood with lighter streaks is used in India for building and ordinary domestic purposes.

For previous introduction see No. 50695.

67898. *CARYOTA RUMPHIANA* Mart. Phoenicaceae. Palm.

An East Indian palm about the size of the coconut palm, with a smooth trunk and graceful bipinnate leaves composed of segments with truncate jagged tips. From the central pith of the bark is prepared a sago which is eaten in the East Indies in times of scarcity.

For previous introduction see No. 51710.

67899. *CASSIA ABSUS* L. Caesalpiniaceae.

An erect annual tropical legume, about 2 feet high, with small reddish yellow flowers.

67900. *EUTERPE ACUMINATA* (Willd.) Wendl. Phoenicaceae. Palm.

A graceful spineless palm from tropical South America, with a trunk 36 feet tall, terminated by about 10 pinnate fronds 7 or 8 feet long. The black roundish fruits are fleshy and about half an inch in diameter.

For previous introduction see No. 51719.

67901. *GLAZIOVA TREUBIANA* Beccari. Phoenicaceae. Palm.

A small palm, cultivated in the Botanical Garden, Buitenzorg, Java. According to Beccari (*Annals du Jardin Botanique de Buitenzorg, Supplement 3, pt. 2, p. 791*) its native country is unknown. The trunk is entirely covered with old leaf bases and terminates in gracefully arching pinnate leaves about 10 feet long.

67897 to 67904—Continued.

67902. *GLORIOSA ABYSSINICA* A. Rich. Melanthiaceae. Glory lily.

A tall, lilylike Abyssinian plant, with large, long-stalked yellow flowers.

67903. *PIGAFETTIA ELATA* (Mart.) Wendl. Phoenicaceae. Palm.

A tall ornamental palm, with a stout trunk, spiny above, and spreading pinnate foliage resembling that of the coconut. Native to the East Indies.

67904. *TRADESCANTIA GENICULATA* Jacq. Commelinaceae. Spiderwort.

A tender herbaceous perennial from the West Indies, about a foot high, with blue flowers.

67905 to 67926.

From Tiflis, Georgia, Russia. Seeds presented by A. Grossheim, director, botanic garden. Received September 1, 1926.

67905. *AMYGDALUS GEORGICA* Desf. (*Prunus nana georgica* DC.). Amygdalaceae.

A hardy bush, native to southern Russia, which closely resembles *Amygdalus nana*, differing in its larger colored flowers and smaller leaves.

67906. *AMYGDALUS NANA* L. (*Prunus nana* Stokes). Amygdalaceae. Russian almond.

A hardy bush about 5 feet high, native to Russia and western Asia, with thick stiff sharply toothed leaves and solitary pinkish flowers. The small hard hairy fruit contains a large pit of bitter flavor.

For previous introduction see No. 43814.

67907. *BRASSICA ELONGATA* Ehrh. Brassicaceae.

An annual herb, native to south-central Europe, of possible use as a vegetable.

67908. *GALANTHUS CAUCASICUS* Baker. Amaryllidaceae. Snowdrop.

A spring-blooming bulbous plant, native to the Caucasus, with sword-shaped leaves about 9 inches long and large white flowers.

67909 to 67921. *IRIS* spp. Iridaceae.

67909 and 67910. *IRIS ACUTILOBA* Meyer.

67909. A dwarf purple-flowered iris about a foot in height, native to the Caucasus.

67910. Var. *lineolata*.

67911. *IRIS CARTHALINIAE* Fomin.

A Caucasian iris described (Moniteur du Jardin Botanique de Tiflis, 1909) as having a thick rhizome and four-flowered or five-flowered stems nearly 3 feet high. The sword-shaped leaves are about two-thirds of an inch wide, and the flowers are light blue. In its native country the plant grows in damp places.

For previous introduction see No. 64297.

67905 to 67926—Continued.

67912. IRIS CAUCASICA Hoffm.

A rather dwarf iris described by Baker (Irideae, p. 45) as having about six bright-green, very narrow leaves 3 to 6 inches long, a short stem, and pale or bright-yellow flowers which appear in March or April. It is native from Asia Minor to Turkestan, ascending to 6,000 feet above sea level.

For previous introduction see No. 64298.

67913. IRIS FOMINII Hort.

A horticultural variety.

67914. IRIS GROSSHEIMII Hort.

A horticultural variety.

67915. IRIS IBERICA Hoffm. Iberian iris.

A dwarf iris, 18 inches high, native to Asia Minor, with falcate, narrow leaves and large flowers; these are pale-brown marked with purple-brown on the outer segments, with the inner segments pure white, faintly veined.

67916. IRIS LYCOTIS Woron.

67917. IRIS MUSULMANICA Fomin.

An iris from the vicinity of Elisabethpol, Caucasus, which, according to the *Moniteur du Jardin Botanique de Tiflis* (vol. 14, 1909), inhabits brackish swamps. It is less than 2 feet tall, and the flowers are either sky blue or yellowish.

For previous introduction see No. 64299.

67918. IRIS PARADOX Stev. Velvet iris.

A low iris with linear leaves 3 to 6 inches long and large flowers, lilac to white. Native to dry places in Asia Minor.

67919. IRIS RETICULATA Bieb. Netted iris.

An early-flowering iris, native to Asia Minor, with a tuft of two to four short, erect, four-angled leaves 18 inches high, a very short stem, and very fragrant, bright-purple flowers.

67920. IRIS SCHELKOWNIKOWI Fomin.

67921. IRIS TALYSCHI Hort.

A horticultural variety.

67922 to 67924. MUSCARI spp. Liliaceae. Grape hyacinth.

67922. MUSCARI CAUCASICUM (Griseb.) Baker.

An ornamental purple-flowered bulbous plant with a scape 8 inches high. Native to the dry mountainous regions of the Caucasus.

67923. MUSCARI LONGIPES Boiss.

A spring-flowering bulbous plant, native to Palestine, about a foot high, with wavy-margined leaves and dense racemes of purple flowers.

67924. MUSCARI NEGLECTUM Guss.

A low bulbous plant, native to the Mediterranean countries, with numerous strap-shaped leaves up to a foot in length, and fragrant dark-blue flowers.

For previous introduction see No. 66589.

67905 to 67926—Continued.

67925. PISUM ELATIUS Bieb. Fabaceae. Pea.

A hardy annual, about 5 feet high, with leaves composed of one to three pairs of narrow leaflets, and purple flowers. Native to woods and thickets in the alpine regions of Europe.

For previous introduction see No. 64640.

67926. ULMUS ELLIPTICA Koch. Ulmaceae. Elm.

A large hardy elm, native to the Caucasus.

67927. SOLANUM TUBEROSUM L. Solanaceae. Potato.

From Wolverhampton, England. Tubers obtained from F. W. Keay, through William Stuart, Bureau of Plant Industry. Received July 3, 1926.

Patterson's Victoria. English-grown tubers.

67923. HEDYCHUM sp. Zinziberaceae. Ginger lily.

From Brazil. Roots obtained from Miss Mary C. Bell, Bayside, N. Y. Received May 11, 1926. Numbered September, 1926.

A leafy, strong-growing tropical ornamental herbaceous perennial, related to ginger. The flowers are in terminal spikes.

67929 to 67931. LILIUM spp. Liliaceae.

From Tunbridge Wells, England. Seeds purchased from R. Wallace & Co., The Old Gardens. Received August 5, 1926.

67929. LILIUM MARTAGON L. Martagon lily.

Variety *dalmaticum*. A Dalmatian variety which often grows to be over 6 feet high, with 12 to 40 flowers of richer, deeper purple than the typical variety.

67930. LILIUM MONADELPHUM Bieb. Great Caucasian lily.

Variety *szovitzianum*. A variety with larger, lemon-yellow flowers, more thickly purple-dotted than the typical species, and with reddish brown anthers.

67931. LILIUM MARTAGON × HANSONI. Lily.

Seeds of hybrids between *Lilium martagon* and *L. hansonii*, raised by the late Mrs. R. O. Backhouse, an English plant breeder.

67932 to 67941.

From Ceylon. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July, 1926.

67932 and 67933. SESBANIA GRANDIFLORA (L.) Poir. Fabaceae.

Seeds, purchased in Peradeniya, of small, rapid-growing, soft-wooded trees, 15 to 20 feet high, with pinnate leaves and large pendulous flowers, followed by long, sickle-shaped pods. The fleshy petals are used in curries and soups in the Indian Archipelago, where these trees are native. The leaves and young shoots are sometimes used as fodder.

For previous introduction see No. 61778.

67932 to 67941—Continued.

67932. No. 914-a. A red-flowered variety.

67933. No. 915-a. A white-flowered variety.

68934. *KLUGIA NOTONIANA* (Wall.) A. DC. Gesneriaceae.

No. 811. Hakgala Botanic Gardens. May 22, 1926. The dyanilla of the Singhalese. A small blue-flowered annual native to Ceylon.

67935. *MONODORA TENUIFOLIA* Benth. Annonaceae.

No. 911. Peradeniya Botanic Gardens. June 9, 1926. A small deciduous tropical African tree, which bears an abundance of yellow, orchidlike flowers in the dry season, when the tree is leafless.

67936. *MUNTINGIA CALABURA* L. Elaeocarpaceae.

No. 912. Peradeniya Botanic Gardens. June 9, 1926. A small ornamental spreading tropical American tree with pinnate leaves and small white flowers. The small yellow berries make good tarts or jam, and the leaves are used for tea.

67937. *PITHECOLOBIUM SUBCORIACEUM* Thwaites. Mimosaceae.

No. 812. Hakgala Botanic Gardens. May 22, 1926. An ornamental tropical leguminous tree about 30 feet high, with glossy leathery compound leaves and dense flower heads about an inch in diameter. Native to Ceylon.

67938. *RHODODENDRON ARBOREUM* J. E. Smith. Ericaceae.

This Himalayan rhododendron is variable both in its foliage and in the color of its flowers. In one form the leaves are silvery on the lower surface, while in another they are covered with a brownish red down. The bell-shaped flowers, borne in dense trusses, vary from deep crimson to pure white. The tree sometimes reaches a height of 35 feet, with a trunk 4 feet in circumference.

For previous introduction see No. 60655.

67939. *RUBUS ELLIPTICUS* J. E. Smith. Rosaceae. Raspberry.

No. 813. Hakgala Botanic Gardens. A Himalayan raspberry, described as follows by J. F. Rock, under No. 55499: "A very stout shrub which, especially when young, is densely covered with long, red, almost hairlike spines. The flowers are white, and the deep-yellow, almost orange, very juicy acid fruits are collected by the hill tribes and brought to the markets; the fruits ripen earlier on the mountains than in the valley. The shrub is found at altitudes of 6,000 to 7,000 feet."

67940. *RUBUS MOLUCCANUS* L. Rosaceae.

No. 814. Hakgala Botanic Gardens. Variety *macrocarpus*. A variety of the tropical high-altitude *Rubus* which produces large fruits with little flavor.

67941. *RUBUS* sp. Rosaceae.

No. 815. Hakgala Botanic Gardens.

67942. *LILIUM PYRENAICUM* Gouan. Liliaceae. Lily.

From London, England. Seeds purchased from Watkins & Simpson, Covent Garden. Received July 29, 1926.

A lily from the Pyrenees Mountains, about 4 feet high, with pale lemon-yellow flowers, dotted purplish black. It resembles *Lilium pomponium*, differing in its greater height, larger bulbs, wider leaves, and larger flowers.

67943. *ERYTHROXYLON COCA* Lam. Erythroxylaceae. Cocaine tree.

From Port of Spain, Trinidad, British West Indies. Plants presented by W. G. Freeman, Director of Agriculture. Received July 21, 1926.

A native tree of tropical South America which thrives from sea level up to 5,000 feet altitude.

67944. *SACCHARUM OFFICINARUM* L. Poaceae. Sugar cane.

From Rio Piedras, Porto Rico. Cuttings obtained from the Porto Rican Insular Experiment Station, through E. W. Brandes, Bureau of Plant Industry. Received July 20, 1926.

A Porto Rican variety.

67945. *GOSSYPIUM* sp. Malvaceae. Cotton.

From Caracas, Venezuela. Seeds presented by H. Pittier, Ministerio de Relaciones Exteriores, Museo Comercial. Received July 16, 1926.

Wild Venezuelan cotton.

67946 to 67948.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received July 16, 1926.

67946. *ACACIA DECURRENS* Willd. Mimosaceae.

Variety *normalis*. A variety of the Green wattle, which is cultivated in California, with sepals as long as the petals. The typical form is a handsome tree with light-green feathery foliage and bright yellow flowers.

67947. *ACACIA DISCOLOR* Willd. Mimosaceae.

A tall unarmed shrub or small tree, native to southeastern Australia and Tasmania, which bears, in autumn, terminal and axillary clusters of yellow flowers.

For previous introduction see No. 62960.

67948. *HAKEA LAURINA* R. Br. Proteaceae. Sea-urchin hakea.

A tall Australian shrub, 30 feet or less high, remarkable for its showy crimson flowers. These are in globular heads, about 2 inches in diameter, from which numerous golden yellow styles protrude an inch or so in all directions.

For previous introduction see No. 64483.

67949. PSIDIUM sp. Myrtaceae. Guava.

From Merauke, New Guinea. Seeds presented by P. T. L. Putnam. Received July 14, 1926.

A locally developed form.

67950 to 67964. PRUNUS spp. Amygdalaceae.

A collection of flowering cherries growing at the United States Plant Introduction Garden, Chico, Calif., originally received from Highland Park, Rochester, N. Y. Numbered July, 1926.

67950 to 67954. PRUNUS SERRULATA Lindl.

67950. P. I. G. No. 16776. Row 123, tree 4, O. T. O. *Ochichima*. A small spreading tree with rough light-brown bark and rather deeply toothed leaves. The double flowers, produced on slender pedicels $1\frac{1}{2}$ inches long, are white, with faint shadings of pink; they are about $1\frac{5}{8}$ inches in diameter.

67951. P. I. G. No. 16784. Row 127, tree 4, O. T. O. *Gosiozakura*. A small spreading tree with rough light-brown bark. The semidouble flowers, produced in clusters of five on slender pedicels $1\frac{3}{4}$ inches in length, are white, faintly overspread with pink, and are $1\frac{1}{2}$ inches in diameter.

67952. P. I. G. No. 16787. Row 131, tree 4, O. T. O. *Oshimazakura*. A quick-growing and comparatively short-lived tree up to 30 feet high, with pale-gray bark and thick, spreading branches. The numerous small, single, white or pinkish flowers are fragrant, and the small ovoid fruits are shining black. Native to central and southern Japan.

67953. P. I. G. No. 16790. Row 133, tree 4, O. T. O. *Hisakura*. A small tree with light-brown bark. The semidouble flowers, produced in clusters of four on slender pedicels an inch in length, are about 1 inch in diameter and delicate rose pink. The rather round petals of the flowers are daintily frilled on the edges.

67954. P. I. G. No. 16783. Rows 139 and 141, trees 4, O. T. O. *Minakami*. Flowers about $1\frac{1}{2}$ inches across, fragrant, single or nearly so, white, in clusters of three, profusely produced. One of the best single white varieties.

67955. PRUNUS SERRULATA SACHALINENSIS (Schmidt) Makino (*P. sargentii* Rehder).

P. I. G. No. 16795. Row 133, tree 5, O. T. O. *Yamazakura*. The mountain cherry of northern Japan, which under favorable conditions becomes a large tree, up to 70 feet tall, with a spreading crown. It is hardy and long lived and is said to be one of the handsomest of the wild cherries of eastern Asia. The young foliage is bronze green, and the mature leaves assume brilliant colors in autumn, changing to shades of yellow, orange, and crimson. The numerous single flowers, pink or at times nearly white, are up to 4 centimeters across, and the black fruits are about the size of peas. An important feature of this wild cherry is the possibility of its use as a stock for cultivated forms, for which purpose it appears to be well suited.

67950 to 67964—Continued.**67956 to 67959. PRUNUS SERRULATA Lindl.**

67956. P. I. G. No. 16801. Rows 139 and 140, trees 5, O. T. O. *Takinioi*. Tree rather small and spreading, about 15 feet high; bark brownish gray; flowers pure white, single, very fragrant, about $1\frac{1}{2}$ inches across, in clusters of three or four; blooming midseason. The Japanese varietal name means "fragrant white waterfall."

67957. P. I. G. No. 16806. Rows 139 to 141, trees 6, O. T. O. *Senriko*. Tree upright ascending in habit, about 20 feet high; bark brownish gray; young foliage coppery green; flowers single or nearly so, white with a pink blush, fragrant, about $1\frac{3}{4}$ inches across, usually three or four in a cluster.

67958. P. I. G. No. 16811. Row 144, tree 1, O. T. O. *Oshimazakura*.

For previous introduction and description see No. 67952.

67959. P. I. G. No. 16821. Rows 146 to 148, trees 2, O. T. O. *Gyoiko*. A vigorous, erect tree, 12 to 14 feet in height, bearing flowers in great profusion. The semidouble, greenish-white flowers, the petals of which are striped darker green with an occasional tinge of pink, are about $1\frac{1}{2}$ inches in diameter and produced in clusters of three to five.

67960. PRUNUS SUBHIRTELLA AUTUMNALIS Makino.

P. I. G. No. 16831. Row 145, tree 4, O. T. O. *Jugatsuzakura*. Tree spreading, with a rounded crown, about 20 feet high; flowers rosy pink, semidouble, about half an inch in diameter, produced freely in the early spring and also sparingly in October. Occasionally a scanty crop of flowers in the spring is followed by a normal crop the following fall.

67961 and 67962. PRUNUS SERRULATA Lindl.

67961. P. I. G. No. 16835. Row 146, tree 4, O. T. O. *Yedozakura*. Tree about 15 feet high, with brownish bark; buds red; flowers double, light pink, large, about $1\frac{3}{4}$ inches across, freely produced in clusters of three. An excellent variety.

67962. P. I. G. No. 16836. Rows 147 to 149, trees 4, O. T. O. *Taizanfukun*. Tree erect, about 15 feet high, with dark-brown bark; flowers semidouble to double, pink, about an inch in diameter, often borne near the ends of the branches.

67963. PRUNUS SERRULATA SPONTANEA (Maxim.) Wilson.

P. I. G. No. 16838. Rows 146 and 147, trees 5, O. T. O. *Yamazakura*. A native Japanese cherry, common on mountain sides from the extreme southern part of Japan to about the central portion. It becomes a tree 80 feet high, of spreading habit, with single pink flowers, and is of value chiefly because of its possible use as a stock for the better varieties of flowering cherries.

67950 to 67964—Continued.

67964. *PRUNUS YEDOENSIS* Mats.
Yoshino cherry.

P. I. G. No. 16845. Rows 146 to 148, trees 6, O. T. O. *Yoshino*. A handsome Japanese tree, ultimately about 40 feet high, with smooth pale-gray bark, thick wide-spreading branches, and large oblong sharply-toothed leaves which normally appear after the flowers have passed their prime. The flowers, borne in great profusion in the spring, are single, pink, or nearly white and about an inch across. The small black fruits are sometimes produced abundantly and afford an easy means of propagation.

67965 to 67968.

From Peradeniya, Ceylon. Seeds presented by the manager, publication depot and central seed store, Department of Agriculture. Received July 1, 1926.

The following are being tested as cover plants at the experiment station, Peradeniya.

67965. *ALBIZZIA FALCATA* (L.) Backer.
(*A. moluccana* Miquel). Mimosaceae.

A rapid-growing tree with large feathery leaves and small globular flower heads. Because of its thin foliage it is grown as a shade for field crops in Ceylon.

For previous introduction see No. 40776.

67966. *CRACCA VILLOSA PURPUREA* (L.) Kuntze (*Tephrosia purpurea* Pers.).
Fabaceae.

A purple-flowered herbaceous perennial, of low spreading habit, which is native to tropical Africa. According to T. H. Holland (Planters' Chronicle, Ceylon, vol. 21, p. 87), trials in Ceylon show this plant to be suited for growing in the dry parts of the island as a source of green manure.

For previous introduction see No. 62909.

67967. *ERYTHRINA VARIEGATA ORIENTALIS* (L.) Merr. (*E. lithosperma* Blume).
Fabaceae.

A moderate-sized spineless leguminous East Indian tree of very rapid growth, with trifoliate leaves and red flowers. In Ceylon, where it is called the *dadap*, this tree is used as a shade for cover plants, and the foliage is lopped for use as green manure.

67968. *INDIGOFERA CONFUSA* Prain and Baker (*I. arrecta* Benth., not Hochst.).
Fabaceae.

A slender bushy, South African perennial, 1 to 2 feet high. The whole plant is a livid, blue-green, indicating the presence of indigo, according to W. H. Harvey (Flora Capensis, vol. 2, p. 183). The small flowers are silky white.

67969. *LILIUM CHALCEDONICUM* L. Liliaceae.
Chalcedonian lily.

From Athens, Greece. Bulbs purchased from D. Demades, Botanical Museum of the University of Athens. Received August 18, 1926.

The Chalcedonian lily, which came originally from southern Europe, has a green purple-tinged stem 2 to 4 feet high, 100 or more leaves 2 to 6 inches long, and three

to six or more flowers about 3 inches in diameter. These are brilliant scarlet, with scarlet anthers.

67970. *CASTILLA* sp. Moraceae.
Rubber tree.

From San Pedro, Honduras. Seeds presented by H. A. Dike. Received September 7, 1926.

The Castillas are Central American trees from several of which rubber is obtained.

67971. *GARCINIA BANCANA* Miquel. Clusiaceae.

From Singapore, Straits Settlements. Seeds presented by the superintendent of the botanic gardens. Received July 12, 1926.

An East Indian tree, which, as described by Ridley (Flora of the Malay Peninsula, vol. 1, p. 174), is 20 to 80 feet tall, with leathery, broadly oval leaves and ovoid fruits.

67972. *NERINE SARNIENSIS* (L.) Herbert. Amaryllidaceae. Guernsey lily.

From Capetown, South Africa. Bulbs purchased from W. S. Duke & Co. Received February 4, 1926. Numbered July, 1926.

A South African bulbous plant with bright-green linear leaves about a foot long, developed after the bright-crimson flowers; the latter are in umbels of about twelve.

For previous introduction see No. 66981.

67973. *CASTILLA* sp. Moraceae.
Rubber tree.

From Bayeau, Haiti. Seeds collected by W. H. Jenkins. Received July 12, 1926.

A Central American tree introduced as a possible source of rubber, which is obtained from a number of species of this genus.

67974 to 67976. *GOSSYPIUM* spp. Malvaceae.
Cotton.

From Kulikoro, French West Africa. Seeds presented by R. H. Forbes, collaborator of the Bureau of Plant Industry. Received July 2, 1926.

67974. *GOSSYPIUM ANOMALUM* Wawra.

This is described by Oliver (Flora of Tropical Africa, vol. 1, p. 211) as a shrub 5 to 10 feet high, with rough branches, reddish flowers, and oval capsules about an inch in length.

For previous introduction see No. 62591.

67975. *GOSSYPIUM ARBOREUM* L.

Locally grown seeds.

67976. *GOSSYPIUM OBTUSIFOLIUM* Roxb.

Locally grown seeds of a native Indian cotton.

67977. *PAVETTA ZIMMERMANNIANA* Valet. Rubiaceae.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received July 6, 1926.

A small East Indian evergreen tree or large shrub, with opposite elliptic leaves and clusters of slender-tubed white flowers. One of the most interesting features of this

plant is that the leaves have been found to contain colonies of nonmotile, nitrogen-fixing bacteria, making the species of possible agricultural value. This feature is discussed by Zimmermann and Faber in the *Jahrbücher für Wissenschaftliche Botanik*, vol. 51, p. 285, 1912, and vol. 54, p. 243, 1914.

67978. MIMUSOPS KAUKI L. Sapotaceae.

From Merauke, New Guinea. Seeds presented by P. T. L. Putnam. Received July 14, 1926.

A medium-sized tropical evergreen tree, 20 to 30 feet high, with oval leaves about 4 inches long, crowded at the ends of the branches, and small clusters of white flowers. The slightly acid fruits, about an inch in diameter, are eaten in parts of India.

67979. PASPALUM NOTATUM Fluegge. Poaceae. Grass.

From Jaguey Grande, Cuba. Seeds presented by Eugenia Gomez. Received August 9, 1926.

A perennial tropical American grass which has shown promise as a pasture grass in the southern United States. It has very stout rootstocks, makes a firm sod, and does well on sandy as well as on loam soils. The flowering culms and ascending stems attain a height of about 1 foot.

For previous introduction see No. 62049.

67980. CITRUS GRANDIS (L.) Osbeck (*C. decumana* Murr.). Rutaceae. Grapefruit.

From Buitenzorg, Java. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 16, 1926.

No. 810. May 22, 1926. A deep pink-fleshed variety which is so dry the follicles can be broken from each other and eaten out of hand.

67981. POPULUS sp. Salicaceae. Poplar.

From Santiago, Chile. Cuttings presented by Salvador Izquierdo. Received July 9, 1926.

A tall fastigate rapid-growing poplar developed by selection at Santa Ines, the nursery of Señor Izquierdo, located near Santiago.

67982 to 67985.

From India. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926.

67982. BROWNEA GRANDICEPS Jacq. Caesalpiniaceae.

No. 907. Peradeniya Botanic Gardens, Ceylon. June 9, 1926. A large handsome Venezuelan tree, up to 40 feet in height, with attractively mottled young foliage and bright-red flowers in large, dense clusters borne at the ends of the branches.

For previous introduction see No. 52308.

67983. GARCINIA CORNEA L. Clusiaceae.

No. 909. Peradeniya Botanic Gardens, Ceylon. June 9, 1926. A handsome tree much like the mangosteen, but with

67982 to 67985—Continued.

smaller leaves. The fruits are about the size of a small orange and are said to be edible.

For previous introduction see No. 49537.

67984. GARCINIA MANGOSTANA L. Clusiaceae. Mangosteen.

Seeds obtained in India.

67985. GARCINIA sp. Clusiaceae.

A tropical Asiatic tree closely related to the mangosteen.

67986 to 67988. CITRUS GRANDIS (L.) Osbeck (*C. decumana* Murr.). Rutaceae. Grapefruit.

From Java. Seeds obtained from Mr. Cornelio, through W. T. Swingle, Bureau of Plant Industry. Received July 9, 1926.

Locally developed grapefruit varieties.

67986. Djeroek Panden Wangi.

67987. Djeroek Bale.

67988. Djeroek Delima.

67989. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Melbourne, Australia. Seeds purchased from F. H. Brunning. Received July 15, 1926.

Giant Colonial cowgrass. A high-yielding form of red clover developed under New Zealand conditions, of high feeding value, suitable for grazing, cutting for green feed, or cutting for hay. (*Bunning.*)

67990. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.

From Leningrad, Russia. Seeds purchased from A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received July 15, 1926.

Seeds grown in Perm, Russia.

67991. LITCHI CHINENSIS Sonner. (*Nephelium litchi* Cambess.). Sapindaceae. Lychee.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture. Received July 19, 1926.

Seeds from trees growing spontaneously in the Philippines.

67992. ULMUS PUMILA L. Ulmaceae. Chinese elm.

From Harbin, Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received July 17, 1926.

No. 5489. June 1, 1926. Seeds from trees growing on the streets and in the parks of Harbin.

67993. HYMENOCALLIS AMANCAES (Ruiz and Pav.). Nichols. Amaryllidaceae. Spider lily.

From Lima, Peru. Bulbs presented by Carlos Rospigliosi, founder and director, Museo de Historia Natural. Received July 26, 1926.

A tender bulbous plant about 2 feet high with large bright-yellow flowers. Native to Peru and Chile.

67994 to 67996.

From Ceylon. Seeds obtained from the Peradeniya Botanic Garden by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926.

67994. *COUROUPITA GUIANENSIS* Aubl.
Lecythidaceae.

No. 910. June 9, 1926. The "cannon-ball" tree, native to Guiana, is one of the strangest freaks of the vegetable kingdom. It is a large, handsome tree which produces pink fleshy flowers of curious shape on special crooked branches rising from the trunk. These flowers are followed by cannon-ball shaped fruits 4 to 5 inches in diameter.

For previous introduction see No. 50475.

67995. *PARKIA TIMORIANA* (DC.) Merr.
(*P. roxburghii* G. Don.). Mimosaceae.

No. 913. June 9, 1926. A beautifully shaped park tree with a clear smooth trunk, attaining a height of 100 feet or more. It is a rapidly growing legume native to Burma. The flowers appear during November, and large clusters of long brown pods are produced on long peduncles. The fine feathery foliage and the graceful form of the tree combine to make an exceptional shade tree for tropical gardens.

For previous introduction see No. 61064.

67996. *STERCULIA LANCEOLATA* Cav. Sterculiaceae.

No. 908. June 9, 1926. A rather small evergreen tree from southeastern Asia, with small lanceolate leaves, which is particularly striking when bearing its bright scarlet fruits. These consist of a cluster of five spreading follicles which open on the under side, displaying the black shiny seeds.

67997 to 68000.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received July 12, 1926.

67997. *ECHINOCHLOA STAGNINA* (Retz.) Beauv. Poaceae. Grass.

A tall perennial grass, 6 feet or less high, which grows wild in marshy land in tropical Africa, where, according to Holland (Useful Plants of Nigeria, pt. 4, p. 831), it is a good fodder, much relished by stock.

For previous introduction see No. 49845.

67998. *ORYZA LATIFOLIA* Desv. Poaceae.

A native Brazilian rice, which is a perennial, sometimes 8 feet high, growing on land which is not flooded, according to a note by Andre Goeldi, of the Museu Goeldi, Para, Brazil, published under No. 50491.

67999. *PANICUM REPENS* L. Poaceae. Grass.

A gray-green creeping or ascending perennial grass up to 2 feet high, native to the Mediterranean countries, and distributed throughout Asia Minor and tropical Africa. The stout rootstocks of this grass make it difficult to eradicate.

67997 to 68000—Continued.

68000. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.

Locally grown seeds.

68001 to 68014.

From Kungchuling, Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received July 16, 1926.

From the Kungchuling Agricultural Experiment Station.

68001 to 68005. *SORGHUM VULGARE* Pers. Poaceae. Sorghum.68001. No. 5490. *Hung ko tai she jen* (red-husked large snake eye).

68002. No. 5491. A late-maturing variety with a stalk over 3 meters long.

68003. No. 5492. *Kei ko she jen hing* (black-husked red snake eye). A land variety which matures in mid-season.68004. No. 5493. *Lao mu chu pu tai tou* (old pig does not lift up his head). An early dwarf variety.68005. No. 5494. *Pai kao liang* (white kaoliang). A late-maturing variety.68006. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Poaceae. Six-rowed barley.

No. 5496½. *Feng tien hei* (Mukden black barley). A local strain.

68007. *HORDEUM VULGARE PALLIDUM* Se-ringe. Poaceae. Six-rowed barley.

No. 5495. *Feng tien pai* (Mukden white barley). The best strain in southern Manchuria, widely cultivated near Mukden.

68008 to 68011. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soy bean.68008. No. 5498. *Ssu li huang* No. 4. Selected from a local variety in Kungchuling in 1914. It is the best strain available for distribution.68009. No. 5499. *Mukden pai mei*. An early-maturing variety cultivated in the vicinity of Mukden.68010. No. 5500. *Ssu piu chieh hei chi*. Cultivated in the vicinity of Ssuiuchieh.68011. No. 5501. *Pai hua tso zu*. A midseason variety cultivated in the vicinity of Kungchuling.68012 to 68014. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

68012. No. 5496. Originally from San-sheng, northern Manchuria.

68013. No. 5497. A local variety cultivated near Nangan, southern Manchuria, which matures in midseason.

68014. No. 5498½. *Kung chuling improved* No. 3. A selected strain.

68015 to 68040.

From southeastern Asia and the Balearic Islands. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 29, 1926.

68015 to 68040—Continued.

68015. *SESBANIA GRANDIFLORA* (L.) Poir.
Fabaceae.

No. 859. Tandjong Priok, Java. May 26, 1926. A remarkably rapid-growing small leguminous tree which produces attractive purplish flowers, $2\frac{1}{2}$ inches long. This tree is much used as a half shade for various cultures in the East Indies. The white variety is much more common, and seeds of the purple variety are very hard to obtain.

For previous introduction see No. 61778.

68016. *ALLAMANDA SCHOTTH* Pohl. Apocynaceae.

No. 847. Botanic garden, Singapore, Straits Settlements. May 30, 1926. A shrub having an abundance of flowers which are smaller than those of *A. grandiflora*.

68017. *ALLIUM CEPA* L. Liliaceae. Onion.

No. 793. Iviza, Balearic Islands. May 21, 1926. The giant onion of Iviza produces bulbs of very large size, some measuring over 6 inches in diameter and 2 inches thick. These onions were found to be an excellent dish when boiled; a single onion will serve five persons.

For previous introduction see No. 64449.

68018. *ARTOCARPUS CHAMPEDEN* (Lour.) Spreng. (*A. polyphema* Pers.). Moraceae.

No. 843. Singapore, Straits Settlements. May 31, 1926. A handsome shade tree bearing small elongated fruits which are rather smooth skinned. The arillus has a peculiar sweet flavor.

For previous introduction see No. 51804.

68019. *BRADBURYA PLUMIERI* (Turp.) Kuntze (*Centrosema plumieri* Turp.). Fabaceae. Butterfly pea.

No. 801. Buitenzorg, Java. May 22, 1926. An ornamental leguminous vine, native to Brazil.

For previous introduction see No. 48597.

68020. *CASSIA BACILLARIS* L. f. Caesalpinaceae.

No. 734. Sibolangit Botanic Garden, Sumatra. March 28, 1926. A small tree suitable for street and park planting. The flowers are golden yellow and an inch or more in diameter.

68021. *CASUARINA SUMATRANA* Jungh. Casuarinaceae.

No. 844. Botanic garden, Singapore, Straits Settlements. May 31, 1926. This species is one of the handsomest of the Casuarinas. It has large cones and very fine drooping branchlets.

For previous introduction see No. 54705.

68022. *CITRUS GRANDIS* (L.) Osbeck (*C. decumana* Murr.). Rutaceae.
Grapefruit.

No. 795. From the Department of Agriculture, Buitenzorg, Java. May 22, 1926. The "Djeroek pandan wangi" of Java. A very large variety which has brilliant pink flesh of good quality and texture. The fruit has a secondary

68015 to 68040—Continued.

fruit in its interior. In fact it is a navel, showing this character on the exterior. It is very good for eating out of hand because it is so dry.

68023. *CITRUS* sp. Rutaceae.

No. 794. From the Department of Agriculture, Buitenzorg, Java. May 22, 1926. "Japanese citron." A very productive curious hybrid variety found in the kampongs of Java. It is suggestive of a cross between the tangerine and the lime and is very sour. It is a remarkable citrus stock in the wet region of western Java.

68024. *DIALIUM LAURINUM* Baker. Caesalpinaceae.

No. 840. From the market at Singapore, Straits Settlements. May 31, 1926. The so-called "Velvet tamarind." The attractive gray fruits have a thin shell which is easily broken, and they contain a thin, very sweet, and agreeable pulp.

For previous introduction see No. 51770.

68025. *DIALIUM MAINGAYI* Baker. Caesalpinaceae.

No. 841. Singapore market, Straits Settlements. May 31, 1926. A smaller fruited species with acid pulp instead of sweet; otherwise much like *Dialium laurinum*.

68026. *EUGENIA AQUEA* Burm. f. Myrtaceae.

No. 735. Botanic garden, Sibolangit, Sumatra. March 28, 1926. This small tree makes a superb showing with its crimson fruits, which have a color quality rarely seen.

For previous introduction see No. 48223.

68027 to 68034. *GARCINIA* spp. Clusiaceae.

68027. *GARCINIA BANCANA* Miquel.

No. 860. Botanic garden, Penang, Straits Settlements. June 5, 1926. A tree with large handsome leaves and large yellow one-sided fruits with thick rind, extremely sour flesh, and seeds $1\frac{1}{2}$ inches long and half an inch thick. The fruits are about the size of the largest fruits of *Garcinia xanthochymus*, but in character of the rind remind one more of *G. atroviridis*. There is little arillus, but what there is has a pleasant acid flavor.

68028. *GARCINIA DULCIS* (Roxb.) Kurz.

No. 821. Singapore, Straits Settlements. May 31, 1926. A sour variety called Munda by the Malays. The fruits are larger than those of *Garcinia xanthochymus*, and like them are very acid.

For previous introduction see No. 30970.

68029. *GARCINIA FORBESII* King.

No. 817. Botanic garden, Singapore, Straits Settlements. May 31, 1926. A small-leaved lowland tree, 15 feet high, of Singapore, where the annual precipitation is 150 inches. The red fruits are the size of a cherry and have acid pulp. The arillus is red.

68030. *GARCINIA GRIFFITHII* T. Anders.

No. 819. Botanic garden, Singapore, Straits Settlements. May 31, 1926.

68015 to 68040—Continued.

A common tree in the woods of Singapore. It is 60 feet tall, with smooth bark and large leaves, 9 to 16 inches long. The acid fruits are said to be 3 inches in diameter, globose, flattened at the top and brownish green, resembling a russet apple.

68031. *GARCINIA MANGOSTANA* L.
Mangosteen.

No. 861. Penang, Straits Settlements. The largest seeds, separated from the smaller ones, to see whether they had more vitality.

68032. *GARCINIA MANGOSTANA* L.
Mangosteen.

No. 862. Penang, Straits Settlements. The small seeds, which are believed to have little vitality.

68033. *GARCINIA MANGOSTANA* L.
Mangosteen.

No. 864. Penang, Straits Settlements. A mixture of medium-sized and large seeds.

68034. *GARCINIA NIGRO-LINEATA* Planch.

No. 818. Botanic garden, Singapore, Straits Settlements. May 31, 1926. A handsome park tree 40 feet tall, with large leaves 6 to 8 inches long and small edible fruits.

68035. *GUSTAVIA* sp. *Lecythidaceae*.

No. 849. Botanic garden, Singapore, Straits Settlements. May 30, 1926. A handsome shrub or small tree with rather curious flowers, reminding one of a passion flower with its many stamens.

68036. *MIMOSA INVISA* Mart. *Mimosaceae*.

No. 797. Tea experiment station, Buitenzorg, Java. May 22, 1926. A most remarkable humus producer which makes a mat of herbage 3 feet high. It is a pink-flowered, very spiny bush, native to tropical America.

For previous introduction see No. 45618.

68037. *OLEA MARITIMA* Wall. *Oleaceae*.

No. 845. Botanic garden, Singapore, Straits Settlements. May 31, 1926. A shrub or small tree common in the lowlands near the sea in Singapore, and there probably capable of withstanding some salt. It bears round velvety black or very dark brown fruits, one-fourth of an inch in diameter, which resemble olives.

68038. *PASSIFLORA LAURIFOLIA* L. *Passifloraceae*.
Yellow granadilla.

No. 846. Botanic garden, Singapore, Straits Settlements. May 30, 1926. A yellow-fruited granadilla with refreshing pulp which is not so juicy as *Passiflora edulis*. It is a handsome evergreen climber.

For previous introduction see No. 44852.

68039. *SHUTERIA VESTITA* Wight and Arn. *Fabaceae*.

No. 379. Ramboda Falls, Ceylon. January 27, 1926. A trailing legume with trifoliate leaves, which have a dark spot on each leaflet. The stems are extremely strong and slender and difficult to break.

68015 to 68040—Continued.

68040. *VIGNA HOSEI* Hort. *Fabaceae*.

No. 800. Buitenzorg, Java. One of the most successful cover crops which has been used on the shady ground under the rubber plantations, and one which does not die back when exposed to the sun.

68041 to 68053. *SACCHARUM OFFICINARUM* L. *Poaceae*.
Sugar cane.

From Pasoeroean, Java. Cuttings purchased from J. Kuyper, assistant director, sugar experiment station. Received August 6, 1926.

Varieties grown in Java.

68041. No. 331. 68048. No. 2752.

68042. No. 105. 68049. No. 2753.

68043. No. 139. 68050. No. 2878.

68044. No. 501. 68051. No. 2883.

68045. No. 1335. 68052. *Gr. D. N. G.*

68046. No. 1499. 68053. *White Ceram*.

68047. No. 2722.

68054 to 68104.

From Leningrad, Russia. Seeds presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received July 26, 1926.

68054 and 68055. *AGROPYRON CRISTATUM* (L.) Gaertn. *Poaceae*.
Wheatgrass.

A perennial, thickly cespitose grass with stout rhizomes, native to southeastern Europe. It is both drought and cold resistant and promises to be of value for the cold grassland area of the Rocky Mountains.

For previous introduction see No. 64090.

68054. No. 2997. From Nemkommuna, Samara Government.

68055. No. 2998. A broad-leaved variety from Nemkommuna, Samara Government.

68056. *AGROPYRON TENERUM* Vasey. *Poaceae*.
Slender wheatgrass.

No. 9453. From the Western Siberian Experiment Station, Omsk.

68057. *ALLIUM SCHOENOPRASUM* L. *Liliaceae*.
Chives.

No. 9270. From Moscow Government. The sand leek or rocambole of Europe and Asia Minor resembles garlic, but has smaller bulbs of milder flavor, which are produced at the tip of the stem as well as at its base.

For previous introduction see No. 59691.

68058. *AMARANTHUS CAUDATUS* L. *Amaranthaceae*.
Amaranth.

No. 1101. From the Voronezh Government Step. Experiment Station.

For previous introduction see No. 56611.

68059. *ANETHUM GRAVEOLENS* L. *Apiaceae*.
Dill.

No. 9260. From Kiev Government.

For previous introduction see No. 64340.

68054 to 68104—Continued.

68060 to 68063. *AVENA SATIVA* L. Poaceae. Oats.

68060. No. 1328. From the Shatilov Experiment Station, Tula Government.

68061. No. 1329. From the Shatilov Experiment Station, Tula Government.

68062. No. 9451. From the Western Siberian Experiment Station, Omsk.

68063. No. 9452. From the Western Siberian Experiment Station, Omsk.

68064 and 68065. *BRASSICA OLERACEA CAPITATA* L. Brassicaceae. Cabbage.

From Moscow Government.

68064. No. 2918. *Kubyshka*.

68065. No. 2919. *Leverka*.

68066. *BROMUS ERECTUS* Huds. Poaceae. Meadow brome grass.

No. 7395. From the Tulun Experiment Station, Irkutsk Government. A perennial, thickly cespitose grass, with upright stems 1 to 3 feet high. Native to Europe and Asia Minor.

68067. *CORIANDRUM SATIVUM* L. Apiaceae. Coriander.

No. 9256. From Geraj, Afghanistan.

68068 to 68071. *CUCUMIS SATIVUS* L. Cucurbitaceae. Cucumber.

From Moscow Government.

68068. No. 2929. 68070. No. 2935.

68069. No. 2933. 68071. No. 2937.

68072. *DACTYLIS GLOMERATA* L. Poaceae. Orchard grass.

No. 7408. From Bekasovo, Moscow Government.

For previous introduction see No. 55382.

68073. *DAUCUS CAROTA* L. Apiaceae. Carrot.

No. 2927. *Vorobjewsk*. From Moscow Government.

68074. *FESTUCA ELATIOR* L. Poaceae. Meadow fescue.

No. 7416. From the Tulun Experiment Station, Irkutsk Government.

68075. *HELIANTHUS ANNUUS* L. Asteraceae. Sunflower.

No. 3002. From the Saratov Experiment Station.

68076 and 68077. *LENS ESCULENTA* Moench. Fabaceae. Lentil.

68076. No. 3006. From the Bogorodizkaja Experiment Station, Kursh Government.

68077. No. 3454. From Kasvin, Persia.

68078. *LEPIDIUM SATIVUM* L. Brassicaceae. Garden cress.

No. 9276. From Faisabad, Afghanistan.

68079. *LOTUS CORNICULATUS* L. Fabaceae. Bird's-foot trefoil.

No. 7435. From the Tulun Experiment Station, Irkutsk Government.

For previous introduction see No. 57967.

68054 to 68104—Continued.

68080. *MEDICAGO SATIVA* L. Fabaceae. Alfalfa.

No. 9893. From Tashaus, Turkestan.

68081. *PANICUM MILIACEUM* L. Poaceae. Proso.

No. 3003. From the Saratov Government Experiment Station.

68082 to 68085. *PAPAYER SOMNIFERUM* L. Papaveraceae. Poppy.

From Mongolia.

68082. No. 9263. 68084. No. 9265.

68083. No. 9264. 68085. No. 9267.

68086. *PHALARIS CANARIENSIS* L. Poaceae. Canary grass.

No. 9286. From Tauris.

68087 and 68088. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

68087. No. 2909. From Kharkof Government.

68088. No. 2910. From Klev Government.

68089. *PIMPINELLA ANISUM* L. Apiaceae. Anise.

No. 9255. From Mongolia.

68090 to 68092. *PISUM SATIVUM* L. Fabaceae. Pea.

68090. No. 1085. From the Kokutchev Experiment Station.

68091. No. 1090. From the Moscow Agricultural Academy.

68092. No. 1096. From Rostov, Don.

68093. *RAPHANUS SATIVUS* L. Brassicaceae. Radish.

No. 2944. From Moscow Government.

68094. *SPINACIA OLERACEA* L. Chenopodiaceae. Spinach.

No. 9273. From Kandagar, Afghanistan.

68095. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceae. Fenugreek.

No. 9284. From Afghanistan.

68096 to 68102. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

68096. No. 2999. *Belokoloska*. From the Saratov Experiment Station.

68097. No. 3001. From the Saratov Experiment Station.

68098. No. 6985. From the Ekaterinoslav Experiment Station.

68099. No. 9446. From the Western Siberian Experiment Station, Omsk.

68100. No. 9447. From the Western Siberian Experiment Station, Omsk.

68101. No. 9448. From the Western Siberian Experiment Station, Omsk.

68102. No. 9449. From the Western Siberian Experiment Station, Omsk.

68103 and 68104. *TRITICUM DURUM* Desf. Poaceae. Durum wheat.

68103. No. 2996. From the Krasnokut Experiment Station, Samara Government.

68104. No. 10407. *Mieri Bugdaj*. From Merv District, Turkestan.

68105 to 68125.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received August 13, 1926.

68105. *ALPINIA HOOKERIANA* Valet. Zinziberaceae.

A biennial tufted leafy herb, 4 to 6 feet high, with bright-green leaves a foot or so long and drooping white and orange flowers in erect panicles. Native to the Malay Peninsula.

68106. *ANGIOPTERIS JAVANICA* Presl. Marattiaceae. Fern.

A coarse tropical fern native to Java, with a massive rounded rootstock and large bipinnate fronds.

68107. *ARECA ALICAE* F. Muell. Phoenicaceae. Palm.

An Australian palm with several slender graceful spineless trunks, 9 feet or more in height, and pinnate shining-green leaves 3 to 6 feet long.

68108. *ARECA TRIANDRA* Roxb. Phoenicaceae. Palm.

A graceful spineless palm, ultimately about 25 feet high, usually with several trunks, which bears crowns of pinnate leaves 4 to 6 feet in length. The fruits, about the size of olives, are orange-scarlet. Native to India.

For previous introduction see No. 45956.

68109. *ARENGA MICROCARPA* Beccari. Phoenicaceae. Palm.

A handsome East Indian palm, with a ringed trunk, covered with black hairs when young and a crown of large pinnate leaves.

68110. *ASPENIUM SQUAMULATUM* Blume. Polypodiaceae. Fern.

A tropical fern, native to Java.

68111. *CARYOTA MITIS* Lour. Phoenicaceae. Palm.

A Malayan palm about 20 feet high with a straight cylindrical spineless ringed trunk, 4 inches or more in diameter, and bipinnate leaves 4 to 9 feet in length. The purple fruits are about the size of cherries.

For previous introduction see No. 51709.

68112. *CARYOTA SOBOLIFERA* Mart. Phoenicaceae. Palm.

A handsome East Indian palm with a spineless trunk about 25 feet high, crowned by a graceful cluster of pinnate leaves composed of short broad segments.

68113. *CHRYSALIDOCARPUS MADAGASCARIENSIS* Beccari. Phoenicaceae. Palm.

A graceful palm, native to Madagascar, about 15 feet high with leaves 10 feet long. The pinnate leaves, with 18-inch long segments arranged in fascicles of six or eight, seem to be arranged on the stem in threes, giving it a triangular appearance. This arrangement of the leaves and the fascicled arrangement of the leaflets is peculiar to this genus, not being found in any other pinnate-leaved palm.

For previous introduction see No. 45958.

68105 to 68125—Continued.

68114. *CORYPHA GEBANGA* Blume. Phoenicaceae. Palm.

A tall East Indian palm with a stout, spineless trunk and large, terminal orbicular fanlike leaves.

68115. *CYRTOSTACHYS LAKKA* Beccari. Phoenicaceae. Palm.

A stately and elegant palm, native to the East Indies, with a slender spineless stem crowned by a cluster of boldly arched leaves 3 to 4 feet in length. The fruits are elongate egg-shaped and about half an inch long.

For previous introduction see No. 55579.

68116. *CYRTOSTACHYS RENDA* Blume. Phoenicaceae. Palm.

A Sumatran palm of stately habit, about 25 feet high, with a slender spineless trunk crowned by a graceful cluster of pinnately divided leaves, with bright-red leaf sheaths.

68117. *IXORA JAVANICA* (Blume) DC. Rubiaceae.

An ornamental East Indian evergreen shrub, about 3 feet high, with oval-oblong leaves up to 7 inches long and clusters of deep orange-red flowers.

68118 to 68120. *LATANIA* spp. Phoenicaceae. Palm.

68118. *LATANIA COMMERSONII* Gmel.

A palm from the island of Mauritius which reaches a height of 30 to 40 feet, with slightly spiny, fan-shaped, dark-green leaves marked with red in young trees. The leaves are used by the natives in making fans, hats, mats, etc.

For previous introduction see No. 51720.

68119. *LATANIA LODDIGESII* Mart.

A low spineless palm, native to Mauritius, with rounded, fan-shaped leaves 3 to 5 feet long and pear-shaped fruits over 2 inches long.

For previous introduction see No. 59316.

68120. *LATANIA VERSCHAFFELTHII* Lem.

A fan-leaved palm about 20 feet high, with pale-green leaves 5 feet long, and hairy petioles, with orange margins, 5 to 8 feet long. Native to the island of Rodriguez, east of Mauritius.

For previous introduction see No. 51722.

68121. *LICUALA AMPLIFRONS* Miquel. Phoenicaceae. Palm.

A showy dwarf fan palm from Sumatra with leaves about 2½ feet long and usually 12-parted.

68122. *MARATTIA SAMBUCINA* Blume. Marattiaceae. Fern.

A large coarse tropical fern with stiff bipinnate fronds. Native to damp situations in the mountains of Java.

68123. *NORMANBYA MUELLERI* Beccari. Phoenicaceae. Palm.

An elegant Australian palm with attractive pinnate leaves.

68105 to 68125—Continued.

68124. *TRICHOSANTHES GLOBOSA* Blume. Cucurbitaceae.

An ornamental cucurbitaceous climber, native to Java, with 3-palmate to 5-palmate leaves and globose fruits.

68125. *ZEPHYRANTHES CITRINA* Baker. Amaryllidaceae. Zephyr lily.

A bulbous plant, unknown except in cultivation, with linear bright-green leaves a foot long and bright-yellow flowers $1\frac{1}{2}$ inches long, on scapes about 5 inches high.

68126. *CANNA* sp. Cannaceae.

From Haina, Santo Domingo, Dominican Republic. Seeds presented by Dr. R. Ciferri, Director, Estación Agronómica de Haina. Received August 18, 1926.

A native canna from the Dominican Republic.

68127 and 68128.

From Kedjadar, Java. Seeds presented by A. M. Cramer. Received August 18, 1926.

68127. *CASSIA LAEVIGATA* Willd. Caesalpinaceae.

An erect shrubby ornamental tropical cassia about 3 feet in height, with axillary and terminal racemes of large yellow flowers and cylindrical leathery pods 2 to 3 inches long, inflated when ripe.

For previous introduction see No. 55599.

68128. *PHASEOLUS LUNATUS* L. Fabaceae. Lima bean.

Java-grown seeds of a pole Lima bean.

68129. *PHASEOLUS CARACALLA* L. Fabaceae. Bertoni bean.

From Summit, Canal Zone. Seeds presented by Holger Johansen, Plant Introduction Garden. Received August 8, 1926.

A perennial leguminous climber from the warmer parts of Paraguay, which bears attractive purplish or yellowish flowers during the late summer and autumn.

For previous introduction see No. 37010.

68130 to 68136. *AVENA SATIVA* L. Poaceae. Oats.

From Melbourne, Victoria, Australia. Seeds presented by H. A. Mullett, Superintendent of Agriculture. Received August 5, 1926.

Australian-grown oat varieties.

68130. *Burt's Early*.

68131. *Lachlan*.

68132. *Palcstine*.

68133. *Ruakura*.

68134. *Sunrise*.

68135. *Wild oats* × *Ruakura*.

68136. *Yarran*.

68137 to 68140.

From Bayswater, Bloemfontein, South Africa. Seeds presented by Charles A. Beck. Received August 18, 1926.

68137 to 68140—Continued.

68137. *ACACIA HORRIDA* (L.) Willd. Mimosaceae.

A spreading, flat-topped, spiny tree, about 20 feet high, widely distributed throughout South Africa. The fragrant yellow flower heads are often visited by bees, but the main value of the tree in South Africa is as a shade for stock.

For previous introduction see No. 48518.

68138. *CUSSONIA UMBELLIFERA* Sond. Araliaceae.

A South African tree, about 35 feet high, with compound, shining-green leaves a foot or so long, and large umbels of small fleshy fruits.

68139. *ERAGROSTIS* sp. Poaceae.

A South African perennial grass.

68140. *ZIZIPHUS MUCRONATA* Willd. Rhamnaceae.

A spiny tree, native to South Africa, about 25 feet high, with small, three-nerved leaves, inconspicuous yellowish flowers, and red fruits about the size of cherries.

68141 to 68150.

From Brignoles, France. Seeds presented by R. Salgues, Station Botanique de Brignoles. Received August 18, 1926.

68141. *ANDROSACE MAXIMA* L. Primulaceae.

A small ornamental tufted European annual, about a foot high, which belongs to the primrose family. The white flowers appear in the spring.

68142. *ANTHYLLIS TETRAPHYLLA* L. Fabaceae.

A leguminous annual, native to southern Europe, about a foot high, with spikes of yellow flowers.

68143. *ELICHRYSUM STOECHAS* (L.) DC. Asteraceae.

A handsome evergreen shrub about 2 feet high, with yellow flowers. Native to the Mediterranean region.

68144. *HUMULUS LUPULUS* L. Moraceae. Hop.

European-grown hop seeds.

For previous introduction see No. 42024.

68145. *IRIS FOETIDISSIMA* L. Iridaceae. Gladwin iris.

An iris, native to the Mediterranean countries, with leaves a foot long and bright-lilac flowers borne on a stem about 2 feet high.

For previous introduction see No. 66576.

68146. *PHALARIS ARUNDINACEA* L. Poaceae. Reed canary grass.

Locally grown seeds.

For previous introduction see No. 60881.

68147. *RANUNCULUS FALCATUS* L. Ranunculaceae. Buttercup.

A low annual, with small yellow flowers, native to southern Europe.

68141 to 68150—Continued.

68148. *RUSCUS ACULEATUS* L. *Convallariaceae*. Butcher's-broom.

An ornamental evergreen shrub, about a foot high, with prickly stems and large red berries. Native to England.

68149. *SCORPIURUS SUBVILLOSA* L. *Fabaceae*.

A decumbent or ascending annual with one to three stems up to 20 inches in length, long-stemmed, simple, grass-green, narrow leaves, and small yellow flowers. Native to the Mediterranean countries.

For previous introduction see No. 65035.

68150. *TRAGOPOGON LONGIROSTRIS* Bisch. *Cichoriaceae*.

A hardy biennial with narrow grass-like leaves and yellow flower heads. Native of southern Europe.

68151 to 68153.

From the Balearic Islands and Morocco. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received August 20, 1926.

68151. *CERATONIA SILIQUA* L. *Caesalpiniaceae*. Carob.

San Antonio, Iviza, Balearic Islands. August 15, 1925. Variety *Pauseca*. One of the best sorts in this section.

68152. *POLYCARPAEA NIVEA* (Ait.) Webb. *Silenaceae*.

Obtained near Mogador, Morocco. June 5, 1925. A low-growing gray hairy perennial plant used extensively and successfully in the sand-binding experiments on the sand dunes.

68153. *THYMUS ZYGIS* L. *Menthaceae*.

San Antonio, Iviza, Balearic Islands. August 14, 1925. *Frigola*. An aromatic plant from which a strong intoxicant is brewed.

68154 to 68157.

From Honolulu, Hawaii. Seeds presented by C. S. Judd, superintendent of forestry. Received August 20, 1926.

68154. *COLUBRINA OPPOSITIFOLIA* Brongn. *Rhamnaceae*.

A small evergreen tree, with opposite, oval or oblong papery leaves up to 7 inches in length. The wood is very hard and was once used by the native Hawaiians for making spears.

68155. *KOKIA ROCKII* Lewton. *Malvaceae*. Kokio.

A Hawaiian tree, up to 40 feet in height, closely related to cotton (*Gossypium* spp.). When covered with its large orange-red flowers it is of striking beauty.

68156. *MEZONEURUM KAUAIENSE* (Mann.) Hillebr. *Caesalpiniaceae*.

A leguminous tree growing to a height of 30 feet. The blossoms are red, and the hard, black heartwood is used by the Hawaiians for clubs and tapa beaters. (Judd.)

68157. *MYOPORUM SANDWICENSE* (A. DC.) A. Gray. *Myoporaceae*.

A tree 20 to 30 feet high, or sometimes a shrub, with alternate oblong leaves,

68154 to 68157—Continued.

up to 6 inches long, crowded toward the ends of the branches, and clusters of small white flowers. The heartwood becomes very fragrant when dried, with an odor resembling that of sandalwood.

68158 to 68169. *IRIS* spp. *Iridaceae*.

From Tiflis, Georgia, Russia. Rhizomes presented by A. Grossheim, director, botanic garden. Received September 1, 1926.

68158. *IRIS ACUTILOBA* Meyer.

A wild iris native to the Caucasus, with purple and fawn-colored flowers.

For previous introduction see No. 67018.

68159. *IRIS CARTHALINIAE* Fomin.

A Caucasian iris described (Moniteur du Jardin Botanique de Tiflis, 1909) as having a thick rhizome, and four-flowered or five-flowered stems nearly 3 feet high. The sword-shaped leaves are about two-thirds of an inch wide, and the flowers are light blue. In its native country the plant grows in damp places.

For previous introduction see No. 64297.

68160. *IRIS FOMINII* Hort.

A horticultural variety.

68161. *IRIS APHYLLA* L. Stool iris.

A European iris with glaucescent leaves up to a foot long or sometimes leafless. The dark-lilac flowers are about 2 inches long.

For previous introduction see No. 66930.

68162. *IRIS GROSSHEIMII* Hort.

A horticultural variety.

68163. *IRIS IBERICA* Hoffm. Iberian iris.

A dwarf, nearly stemless iris, native to mountainous parts of Asia Minor, with narrow leaves 3 to 6 inches long, and large flowers; these have pale-brown outer segments blotched with purple-brown, and pure white inner segments, although these colors are not constant.

68164. *IRIS LYCOTIS* Worm.

A species belonging to the *Oncocyclus* section and probably related to *Iris acutiloba*.

68165. *IRIS MUSULMANICA* Fomin.

An iris from the vicinity of Elisabethopol, Caucasus, which, according to the Moniteur du Jardin Botanique de Tiflis (vol. 14, 1909), inhabits brackish swamps. It is less than 2 feet tall, and the flowers are either sky-blue or yellowish.

For previous introduction see No. 67917.

68166. *IRIS PARADOXA* Stev. Velvet iris.

A dwarf, linear-leaved iris, 2 to 6 inches high, with large lilac or white flowers. Native to northern Persia and Asia Minor, where it grows in dry situations.

68167. *IRIS RETICULATA* Bieb. Netted iris.

A tufted iris, native to Asia Minor, with short erect leaves about 1½ feet high, a very short stem, and very fragrant, bright-purple flowers with the outer segments about 2 inches long.

68158 to 68169—Continued.

68168. IRIS SCHELKOWNIKOWI Fomin.

A species belonging to the *Oncocylus* section and probably related to *Iris acutiloba*.

68169. IRIS TASCHIA Hort.

A horticultural variety.

For previous introduction see No. 64300.

68170. POPULUS MAXIMOWICZII A. Henry. Salicaceae. Poplar.

From Jamaica Plain, Mass. Cuttings presented by the Arnold Arboretum. Received November 8, 1922. Numbered September, 1926.

A very fast growing and stately tree native to China. It will succeed in the coldest portions of the United States on the poorest and driest soils. At all times it makes phenomenally rapid growth. Its leaves, which are handsomely crinkled like those of *Rosa rugosa*, appear very early in the spring and remain longer in the fall than those of almost any other deciduous plant. The tree is not attacked by borers or leaf-eating insects. It is highly recommended as a shade tree and windbreak generally, especially for the northwest Plains country.

For previous introduction see No. 51877.

68171 to 68177.

From Leningrad, Russia. Seeds presented by A. Kol, chief, bureau of introduction, Institute of Applied Botany. Received August 23, 1926.

68171. BROMUS INERMIS Leyss. Poaceae. Brome grass.

No. 7393. A perennial European grass, with creeping rhizomes and stems up to 30 inches high.

68172. FESTUCA ELATIOR L. Poaceae. Meadow fescue.

No. 2963. A loosely tufted perennial European grass with short creeping rootstalks and erect stems up to 4 feet high.

68173. LENS ESCULENTA Moench. Fabaceae. Lentil.

No. 3455. An annual legume, 1½ feet high, of Russian strain, native to southern Europe.

68174 and 68175. PHASEOLUS VULGARIS L. Fabaceae. Common bean.

Russian varieties.

68174. No. 2892. Bomba. Variety ellipticus.

68175. No. 2908. Variety oblongus.

68176. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 6984. Variety ferrugineum. A Russian strain.

68177. VICIA ERVILIA (L.) Willd. Fabaceae. Vetch.

No. 3453. An annual erect vetch, native to the Mediterranean countries.

68178. AMYGDALUS PERSICA NECTARINA Ait. Amygdalaceae. Nectarine.

From Chico, Calif. A variety of unknown origin, grown at the United States Plant

Introduction Garden under No. 26503, but distinct from the original trees of that number. Numbered September, 1926.

(Trees 7 and 8, new test orchard, propagated from trees 4 and 5, old test nursery.) Fruit very large, spherical, about 2½ inches in diameter; stem heavy; skin almost uniformly yellow-green, sometimes overlaid with more or less red; flesh medium firm, greenish white, moderately juicy, mildly subacid, of good rich flavor and of excellent quality; pit of medium size, slightly staining flesh. Fruit ripens at Chico the latter part of August.

68179. GARCINIA BENTHAMII Pierre. Clusiaceae.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture, through Dr. W. A. Orton, director, Tropical Plant Research Foundation, Washington, D. C. Received August 31, 1926.

A small, evergreen, rapidly growing tropical tree, closely related to the mangosteen (*Garcinia mangostana*). The edible fruits are very similar to those of the mangosteen except that they are slightly smaller, bright red, and have very acid flesh; probably suited for making preserves. Native to low altitudes in the Philippines.

68180 to 68293.

From Gandja, Transcaucasia, Russia. Seeds presented by the Director, Central Transcaucasian Agricultural Plant Breeding and Experiment Station. Received August 30, 1926.

Locally grown strains.

68180 to 68229. HORDEUM spp. Poaceae.

68180. HORDEUM DISTICHON PALMELLA Harlan. Two-rowed barley.

No. 8.

68181 to 68200. HORDEUM VULGARE NIGRUM (Willd.) Beaven. Six-rowed barley.

68181. No. 10. 68191. No. 158.

68182. No. 11. 68192. No. 159.

68183. No. 116. 68193. No. 160.

68184. No. 118. 68194. No. 161.

68185. No. 144. 68195. No. 162.

68186. No. 145. 68196. No. 163.

68187. No. 151. 68197. No. 164.

68188. No. 154. 68198. No. 165.

68189. No. 155. 68199. No. 167.

68190. No. 157. 68200. No. 169.

68201 to 68229. HORDEUM VULGARE PAL-LIDUM Seringe. Six-rowed barley.

68201. No. 3. 68210. No. 111.

68202. No. 4. 68211. No. 112.

68203. No. 7. A 68212. No. 114.

white variety. 68213. No. 123.

68204. No. 9. 68214. No. 124.

68205. No. 12. 68215. No. 125.

68206. No. 104. 68216. No. 126.

68207. No. 105. 68217. No. 127.

68208. No. 106. 68218. No. 128.

68209. No. 107. 68219. No. 129.

68180 to 68293—Continued.

68220. No. 132.	68225. No. 140.
68221. No. 133.	68226. No. 141.
68222. No. 134.	68227. No. 142.
68223. No. 138.	68228. No. 146.
68224. No. 139.	68229. No. 190.

68230 to 68293. TRITICUM spp. Poaceae.

68230 to 68236. TRITICUM AESTIVUM L.
(*T. vulgare* Vill.). Common wheat.

68230. No. 329.	68234. No. 357.
68231. No. 335.	68235. No. 408.
68232. No. 336.	68236. No. 413.
68233. No. 338.	

68237 to 68291. TRITICUM DURUM Desf.
Durum wheat.

68237. No. 5.	68265. No. 64.
68238. No. 6.	68266. No. 65.
68239. No. 9.	68267. No. 66.
68240. No. 12.	68268. No. 67.
68241. No. 13.	68269. No. 77.
68242. No. 14.	68270. No. 81.
68243. No. 17.	68271. No. 86.
68244. No. 18.	68272. No. 87.
68245. No. 20.	68273. No. 100.
68246. No. 22.	68274. No. 117.
68247. No. 23.	68275. No. 128.
68248. No. 24.	68276. No. 134.
68249. No. 25.	68277. No. 160.
68250. No. 26.	68278. No. 194.
68251. No. 27.	68279. No. 224.
68252. No. 28.	68280. No. 232.
68253. No. 29.	68281. No. 331.
68254. No. 30.	68282. No. 333.
68255. No. 34.	68283. No. 354.
68256. No. 37.	68284. No. 356.
68257. No. 39.	68285. No. 358.
68258. No. 41.	68286. No. 360.
68259. No. 43.	68287. No. 362.
68260. No. 52.	68288. No. 410.
68261. No. 54.	68289. No. 415.
68262. No. 55.	68290. No. 422.
68263. No. 56.	68291. No. 445.
68264. No. 63.	

68292 and 68293. TRITICUM POLONICUM
L. Poaceae. Polish wheat.

68292. No. 332.	68293. No. 351.
-----------------	-----------------

68294. AGAVE FUNKIANA Koch. and
Bouche. Amaryllidaceae.

From Ciudad Victoria, Tamaulipas, Mexico. Seeds presented by Bernardo Zorrilla's Sons, through L. H. Dewey, Bureau of Plant Industry. Received September 16, 1926.

This plant grows wild on the mountain sides surrounding the Jaumave and Las Palmas Valleys, in the State of Tamaulipas. The leaves are 5 to 7 centimeters wide

and 50 to 100 centimeters long, with horny borders bearing sharp-hooked prickles and a terminal spine. The fiber, known in the market as Jaumave itle, is cleaned by hand from the leaves forming the central cogollos or buds. This fiber is used in the manufacture of brushes and also twines. The plant has not been cultivated commercially, but it may be propagated either from seeds or from suckers. (*Dewey*.)

68295. DOLICHOS LABLAB L. Fabaceae.
Hyacinth bean.

From Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926. Numbered September, 1926.

No. 539. March 4, 1926. Seeds black with a white hilum; plant found growing along the shore of Lake Tewar, near Taken-gon.

68296 to 68298.

From Sumatra and Ceylon. Seeds obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received August 31, 1926.

68296. PHASEOLUS SCABERULUS Miquel.
Fabaceae.

From Sumatra. A twining, leguminous vine, with hairy stems and leaves, and leaflets up to 3½ inches in length, according to Miquel (*Flora Indiae Batavae*, vol. 1, pt. 1, 197). It is native to Java.

68297. SOPHORA TOMENTOSA L. Fabaceae.

No. 436. Found on the beach at Pulu We, near Sebang, Sumatra. February 17, 1926. A beach-loving shrub with attractive foliage.

For previous introduction see No. 46446.

68298. (Undetermined.)

February, 1926. A leguminous vine found on salt plains near the sea at Jaffna, Ceylon.

68299 and 68300.

From Teneriffe, Canary Islands. Seeds presented by Juan, Bolinaga, Jardin de Aclimatación de Orotava. Received September 1, 1926.

68299. JUNIPERUS CEDRUS Webb. Pina-
ceae. Juniper.

A Canary Island relative of the common juniper, differing only in minor botanical characters and also in being less hardy. According to Bean (*Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 669), Dr. Georges Perez of Orotava, Canary Islands, reported trees of this species with trunks a yard or more in diameter. The leaves are uniformly awl-shaped and in whorls of threes. The wood is pleasantly perfumed.

For previous introduction see No. 57080.

68300. PINUS CANARIENSIS C. Smith.
Pinaceae. Canary pine.

A pine, native to the Canary Islands, which thrives in warm temperate climates. It is suited to nearly all soils and has a straight trunk even when it grows in an isolated position. The wood of this pine, known in the Canary Islands as

68299 and 68300—Continued.

"tea," is very hard, very difficult to work, but unequaled for duration and building purposes because it does not rot.

For previous introduction see No. 62096.

68301 to 68323. *VITIS VINIFERA* L. Vitaceae. Grape.

From Teheran, Persia. Cuttings presented by F. J. Harris, Teheran, at the request of the Earl of Chichester, through Thomas Cook & Sons, New York, N. Y. Received March 24, 1926. Numbered September, 1926.

- 68301. No. 1. *Eskari Riz*.
- 68302. No. 2. *Sahebi*.
- 68303. No. 3. *Kechwechi Bleue*.
- 68304. No. 4. *Lal Guermez*.
- 68305. No. 5. *Chali Sar*.
- 68306. No. 6. *Umagun*.
- 68307. No. 7. *Kechwechi Rouge*.
- 68308. No. 8. *Cefid*.
- 68309. No. 9. *Lal Cefid*.
- 68310. No. 10. *Quanque*.
- 68311. No. 11. *Tagouti Rouge*.
- 68312. No. 13. *Kalili*.
- 68313. No. 14. *Takri*.
- 68314. No. 15. *Lore Koche*.
- 68315. No. 16. *Chani Rouge*.
- 68316. No. 17. *Chirazi*.
- 68317. No. 18. *Sahabi Charial*.
- 68318. No. 19. *Jagonti Charial*.
- 68319. No. 20. *Hadjes Guermez*.
- 68320. No. 21. *Melhi Khany*.
- 68321. No. 22. *Angur Kalili*.
- 68322. No. 23. *Angur Noir Grande*.
- 68323. No. 24. *Ceskarg Charial*.

68324. *DAVIDIA INVOLUCRATA* Baill. Cornaceae. Dove tree.

From Newry, Ireland. Plant purchased from T. Smith, Daisy Hill Nursery. Received September 24, 1926.

The Chinese dove tree, as this is sometimes called, is a native of the mountain forests of central and western China. In its native home it becomes a tree 75 feet tall, with a shapely pyramidal crown. When in bloom the tree is unusually striking because of the two or three large, snow-white bracts which subtend each flower. These bracts are of unequal size, the largest being 4 to 8 inches long and 2 to 4 inches broad. The bright-green, oval, sharply toothed leaves are 3 to 6 inches long.

For previous introduction see No. 65439.

68325 to 68348.

From Darjiling, India. Seeds presented by G. H. Cave, Curator, Lloyd Botanic Garden. Received September 9, 1926.

68325. *ACACIA CATECHU* (L. f.) Willd. Mimosaceae.

The pale-yellow gum obtained from this acacia has very strong adhesive

68325 to 68348—Continued.

powers and is considered a better substitute for gum arabic than that of *Acacia arabica*, according to Watt (Dictionary of the Economic Products of India, vol. 1). The tree is found wild in parts of India and Burma, where it sometimes becomes 70 feet high, though usually smaller. The leaves are very finely pinnate, and the white or pale-yellow flowers are in spikes.

For previous introduction see No. 65246.

68326. *ACACIA PENNATA* (L.) Willd. Mimosaceae.

A climbing, prickly shrub, up to 20 feet in height, with very narrow, rigid leaflets and dense panicles of yellow flower heads. Native to the central and eastern Himalayas.

68327 to 68329. *ACER* spp. Aceraceae. Maple.68327. *ACER CAMPBELLII* Hook. f. and Thoms.

The pleasing contrast of the bright-green leaves and red stalks of this Himalayan maple make it worthy of a trial as an ornamental shade tree for the warmer parts of the United States. In its native country the grayish white, moderately hard timber is used for cabinetwork and for planking.

For previous introduction see No. 58901.

68328. *ACER HOOKERI* Miquel.

A handsome tree 40 to 50 feet high, with deeply fissured brown bark, native to the Sikkim Himalayas at altitudes of 8,000 to 10,000 feet. The oval leaves, though usually green, are sometimes copper colored. The wood is gray with small pores and very numerous fine red medullary rays.

For previous introduction see No. 58902.

68329. *ACER OBLONGUM* Wall.

A subtropical maple described by Hiern (Hooker, Flora of British India, vol. 1) as a tree 40 to 50 feet tall, with a trunk 1 or 2 feet in diameter, and dark-green, oblong, entire leaves up to 7 inches long. The reddish wood is used for making agricultural implements.

For previous introduction see No. 62808.

68330. *ALNUS NEPALENSIS* D. Don. Betulaceae. Alder.

A tree up to 70 feet high, with a trunk 3 to 4 feet in diameter, which is very common all over Yunnan at altitudes of 4,000 to 7,000 feet. It is a rapid grower, used chiefly for firewood, and appears to thrive in spite of the tall grass, 5 to 8 feet high, which surrounds it. I would recommend it strongly for planting in grassland where trees can not usually be grown. (Note by J. F. Rock, under No. 56636.)

68331. *CAPPARIS OLACIFOLIA* Hook. f. and Thoms. Capparidaceae.

An erect, thorny shrub, 6 to 8 feet tall, with shining green leaves and large, axillary flowers, white with blue anthers. The shrub is found in the tropical valleys of the Himalayas from Nepal to Assam.

For previous introduction see No. 47653.

68325 to 68348—Continued.

68332. *CLEMATIS GOURIANA* Roxb. Ranunculaceae.

A tall-climbing, subtropical clematis, with pinnate or bipinnate shining-green leaves, and large panicles of white or yellowish flowers. Native to the western Himalayas at altitudes up to 3,000 feet.

For previous introduction see No. 50336.

68333. *CLEMATIS MONTANA* Buch.-Ham. Ranunculaceae.

A vigorous subtropical climber, native to the Himalayas, which often attains a stem length of 20 feet. The sweet-scented, white flowers, with conspicuous yellow stamens, are about 2 inches across and are produced in several-flowered axillary clusters.

For previous introduction see No. 50337.

68334. *ERYTHRINA ARBORESCENS* Roxb. Fabaceae. Coral tree.

When covered with its bright-scarlet flowers this small tree is very attractive and is often planted as an ornamental in the streets of Darjiling. There are but few prickles on its branches, and the thin greenish leaves are often a foot in width. The strongly curved pods are about an inch wide and 6 to 9 inches long. The tree is found native in the central and eastern Himalayas at altitudes ranging up to 7,000 feet.

For previous introduction see No. 58907.

68335. *ERYTHRINA VARIEGATA* Stickm. (*E. indica* Lam.). Fabaceae. Coral tree.

A moderate-sized, quick-growing, deciduous tree, native throughout India, and cultivated in many parts of the Tropics. The clusters of large bright-red flowers appear before the leaves. The pods, 4 to 8 inches long, contain several dark carmine seeds. The flowers are dried for use as a dye; the bark is used for tanning and dyeing and yields an excellent, pale straw-colored fiber. The leaves are used as cattle fodder; the bark and leaves are also used medicinally. The open-grained, light wood is durable and does not split or warp; it is used for boxes, toys, and also for firewood. Much of the lacquered ware of India is made of the wood of this tree.

For previous introduction see No. 54898.

68336. *FICUS HOOKERI* Miquel. Moraceae. Fig.

A subtropical tree with large, oval leaves up to 11 inches in length, native to the temperate Himalayas of north-eastern India. It is of possible use as a shade tree for the warmer parts of the Gulf States and California.

For previous introduction see No. 49635.

68337. *FRAXINUS FLORIBUNDA* Wall. Oleaceae. Ash.

A large handsome deciduous tree, native to the more temperate portions of the Himalayas at altitudes up to 11,000 feet. The leaves, up to 15 inches long, are composed of seven to nine leaflets, and the white flowers are in large terminal panicles.

For previous introduction see No. 50366.

68325 to 68348—Continued.

68338. *HIBISCUS PUNGENS* Roxb. Malvaceae.

An erect bristly annual or perennial, native to the tropical Himalayas, with roundish heart-shaped, deeply lobed leaves 5 to 8 inches long and purple-centered yellow flowers 5 inches in diameter.

For previous introduction see No. 47691.

68339. *LUCULIA GRATISSIMA* (Wall.) Sweet. Rubiaceae.

A tree or spreading shrub, native to the temperate Himalayas, where it attains a height of 10 to 16 feet. It is a very attractive ornamental because of the gorgeous rounded masses of pink or rose-colored flowers. It is said to make an excellent table plant when grown in a pot and treated somewhat similarly to a gardenia.

For previous introduction see No. 47710.

68340. *MIMOSA RUBICAULIS* Lam. Mimosaceae.

A low straggling spiny shrub or small tree, native throughout India up to 5,000 feet altitude. The thin, finely pinnate foliage and reddish yellow flower heads make the shrub of possible value as an ornamental in the warmest parts of the United States. It is said also to make a good hedge.

For previous introduction see No. 55749.

68341. *XOLISMA OVALIFOLIA* (Wall.) Rehder. (*Andromeda ovalifolia* Wall.). Ericaceae.

Although this shrub or small tree may prove of value as a semihardy ornamental because of its racemes of bluish or white flowers, it is used as an insecticide in its native country, India, because of the presence of a poisonous principle in the young leaves and buds. The oblong, leathery leaves are 3 to 6 inches long.

For previous introduction see No. 64121.

68342. *QUERCUS INCANA* Roxb. Fagaceae. Oak.

A large evergreen oak from the mountains of eastern India, with bark rich in tannin and acorns which are eaten by the wild animals of the Himalayas.

For previous introduction see No. 61621.

68343 to 68345. *RHODODENDRON* spp. Ericaceae.

68343. *RHODODENDRON CILIATUM* Hook. f. Fringed rhododendron.

A Himalayan rhododendron of somewhat dwarf habit, bearing many small loose trusses of pinkish white flowers less than 3 inches wide. It rarely exceeds 6 feet in height.

For previous introduction see No. 58919.

68344. *RHODODENDRON GRANDE* Wight.

A handsome shrub about 15 feet high, native to the Himalayas. It bears numerous loose trusses of bell-shaped flowers about 2½ inches in diameter. These are at first suffused

68325 to 68348—Continued.

with a faint rose tint which later changes to white.

For previous introduction see No. 58923.

68345. RHODODENDRON MADDENI Hook. f.

A shrub 6 to 8 feet high with red-stemmed, dark-green leaves. The large delicately fragrant flowers, tinged with rose, are produced in threes at the ends of the branches. Native to the Himalayas.

For previous introduction see No. 58927.

68346. RUBUS ROSAEFOLIUS J. E. Smith. Rosaceae.

A Philippine raspberry, which, as described by Brown (Wild Food Plants of the Philippines, p. 66), is a spiny shrub, rarely over 3 feet high, common in the mountains of Luzon, the Visayan Islands, and Mindanao, Philippine Islands. The red fruits, borne singly or in clusters, are about 1.5 centimeters in diameter; they are juicy but rather insipid.

For previous introduction see No. 65267.

68347. VACCINIUM DUNALIANUM Wight. Vacciniaceae. Blueberry.

A large erect subtropical shrub with narrow oblong slender-tipped leaves and axillary clusters of small inconspicuous flowers. It is native to the mountainous sections of northern and eastern India.

For previous introduction see No. 60667.

68348. VIBURNUM STELLULATUM Wall. Caprifoliaceae.

A large evergreen shrub with small orange-red berries, native to the temperate Himalayas, and said to be hardy in England.

68349. BAMBUSA MURIAKI Hort. Poaceae. Bamboo.

From France. Plant obtained through the Federal Horticultural Board. Received April 20, 1926. Numbered September, 1926.

A Japanese bamboo.

68350. PHOENIX DACTYLIFERA L. Phoenicaceae. Date palm.

From Culiacan, Sinaloa, Mexico. Seeds presented by C. J. Stafford, through T. Ralph Robinson, Bureau of Plant Industry. Received September 8, 1926.

Mexican-grown date seeds.

68351. CHALCAS KOENIGII (L.) Kurz (Murraya koenigii Spreng.). Rutaceae.

From Peradeniya, Ceylon. Plants obtained by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926.

No. 894, Peradeniya Botanic Gardens, June 9, 1926. A small tree of the orange family closely related to the orange jasmine (*Murraya exotica*), but with larger leaves and less attractive habit. The fresh leaves form a constant ingredient of the Ceylon curries and give them a very agreeable flavor.

68352 to 68355.

From New South Wales, Australia. Trees received during July and September, 1923, at the United States Plant Introduction Garden, Chico, Calif., where these trees are now growing. Numbered September, 1926.

68352 to 68354. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

68352. *Pullar's Cling*. Fruits nearly spherical, about 2½ inches long; skin dark rich yellow overlaid on one side with red blush or striping; flesh firm, dark lemon yellow or orange, somewhat rough, medium juicy, slightly red at pit, slightly acid, flavor good. Appears to have the qualities of a good canning peach.

68353. *Golden Queen*. Fruits generally spherical, about 2½ inches long; skin firm, uniformly orange-yellow, with medium heavy fine tomentum; flesh firm, medium fine texture, orange-yellow, medium juicy, mildly subacid, clinging tightly to pit, of good quality, but lacking in special aroma, not stained at pit; pit medium size. Appears to be a good canning peach.

68354. *Goodman's Choice*. Fruits spherical, about 2¼ inches long; skin medium firm, ground color yellow, overlaid in part or almost entirely with dark red, medium heavy fine tomentum; flesh dark yellow, almost orange, firm, medium juicy, medium fine texture, with little or no staining at pit, of rich sweet flavor; pit medium or small. Would make an excellent canning peach.

68355. PRUNUS ARMENIACA L. Amygdalaceae. Apricot.

Trevatt. Trees 9 to 14 feet high, yielding well. Fruits almost round, 2 inches in diameter, yellow; skin smooth; flesh apricot yellow, rather soft, sweet, of fair quality; pit large, loose in cavity. Ripen at Chico, Calif., in June.

68356 and 68357.

From Ceylon and Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received February and May, 1926. Numbered September, 1926.

68356. BROWNEA MACROPHYLLA Masters. Caesalpiniaceae.

No. 301, Peradeniya Gardens, Ceylon, January 9, 1926. A beautiful plant bearing very large clusters of bright-rose flowers with long protruding bright-colored stamens. It is one of the rare ornamental trees from Colombia.

68357. ARTOCARPUS ELASTICA Reinw. Moraceae.

No. 712, Sibolangit Botanic Gardens, Sumatra. March 26, 1926. A tree which grows to a height of 40 meters. The young trees furnish a fiber, and the latex is a remarkable bird lime. The fruits are eaten by the Battaks.

For introduction of seeds see No. 67673.

68358. DICELLOSTYLES AXILLARIS
(Thwaites) Benth. Malvaceae.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director of Agriculture. Received September 10, 1926.

A malvaceous tree, closely related to cotton (*Gossypium* spp.), with narrowly oval leaves about 4 inches long, white flowers, and globose, hispid capsules. Native to Ceylon.

68359. RUBUS FRAXINIFOLIUS Poir.
Rosaceae.

From the Philippine Islands. Seeds presented by P. J. Wester, Ballston, Va. Received September 24, 1926.

Palawan. A tropical raspberry, described (Brown, Wild Food Plants of the Philippines, p. 63) as a scrambling shrub, with branches 2 to 4 meters long, which is very common in the mountains from Luzon to Mindanao, Philippine Islands. The stems and leaves are armed with sharp spines, and the white flowers are about 2 cm. across. The bright-red berries, 10 to 15 mm. in diameter, borne in clusters, are fairly juicy and edible, but rather tasteless.

68360. (Undetermined.)

From Sumatra. Seeds obtained by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May 14, 1926. Numbered September, 1926.

No. 669. Between Takengon and Bireun. March 9, 1926. A very striking tree with purple, olive-shaped fruits hanging from brown capsules.

68361 to 68403.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received September 14, 1926.

68361. ALEURITES MONTANA (Lour.) Wilson.
Euphorbiaceae. Mu-oil tree.

No. 242. Baptist Mission Compound, Wuchow, Kwangsi. November 18, 1925. *Tung yau*. Trees of average yield growing at the foot of a terrace in yellow-clay granitic subsoil, with their roots partly in filled soil of the same composition, but naturally looser in texture.

For previous introduction see No. 66064.

68362 to 68402. ORYZA SATIVA L. Poaceae. Rice.

In general there are two harvests of rice each year in this latitude, one in July or August and another in October or November. It is of interest that the varieties planted for the first crop are apparently distinct from those which are planted for the second crop. Preliminary experiments carried out at the Canton Christian College confirm this. When the first-crop variety is planted at the second-crop season, or vice versa, it does not develop and ripen properly or at the expected time. It may be that the two groups have different adaptations as to length of day required for bringing them to proper flowering and fruition. The second-crop varieties, in general, are said to be of better quality, possibly because of the fine weather that usually prevails during the ripening and harvesting time. It is said that poor soil, while yielding less, gives a better quality of grain.

68361 to 68403—Continued.

68362 to 68373. These seeds of second-crop varieties were obtained at Foh-t-suen, Lohkongtung district.

68362. No. 442. *Paang chim*. Starchy.

68363. No. 443. *Shue nga kuk*. Starchy.

68364. No. 444. *Chim tsai kuk*. Starchy.

68365. No. 445. *Wong hok yau chim kuk*. Starchy.

68366. No. 446. *Paak hok yau chim kuk*. Starchy.

68367. No. 447. *Paak hin tsai noh kuk*. Glutinous.

68368. No. 448. *Tsai mei chim kuk*. Starchy.

68369. No. 449. *Kam fung kuk*. Starchy.

68370. No. 450. *Sz miu kuk*. This is one of the two most popular starchy varieties because of the excellent quality.

68371. No. 451. *So kuk*. A bearded, starchy variety.

68372. No. 452. *Tuai noh kuk*. Glutinous.

68373. No. 453. *On naam noh kuk*. Glutinous.

68374. No. 454. *Chiu on lai chim kuk*. A starchy second-crop variety which has been growing at the Canton Christian College for four years. The growing season is about 104 days, and the average yield is about 2,400 pounds per acre.

68375. No. 455. *Toi shaan hung tau tsai kuk*. A starchy second-crop variety originally from the Toishaan district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is about 89 days, and the yield is about 1,800 pounds per acre.

68376. No. 456. *Tung koon taai chim kuk*. A starchy second-crop variety originally from the Tungkoon district, which has been growing at the Canton Christian College. This is one of the most popular second-crop varieties of rice because of its excellent quality.

68377. No. 457. *Lok cheung maah kuk*. A starchy second-crop variety, originally from the Lokcheung district, which has been growing at the Canton Christian College for the last year. The growing season is 89 days, and the yield is about 1,100 pounds per acre.

68378. No. 458. *Toi shaan sheung kong chim kuk*. An early starchy second-crop variety originally from the Toishaan district, Kwangtung, which has been growing at the Canton Christian College for the last year. The growing season is 91 days, and the yield is about 800 pounds per acre.

68379. No. 459. *Kwai peng paak fa chim kuk*. A starchy second-crop variety, originally from the Kwaipeng district, which has been growing at the Canton Christian College for four years. The growing season is about 101 days, and the average yield is about 2,600 pounds per acre.

68361 to 68403—Continued.

68380. No. 460. *Foh shiu chim kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for one year. The growing season is 91 days, and the yield is about 1,140 pounds per acre.

68381. No. 491. *Wong hok noh kuk*. A glutinous second-crop variety which has been grown at the Canton Christian College for four years. The growing season is about 105 days, and the average yield is about 2,200 pounds per acre.

68382. No. 462. *Paak hok sheung kong chim kuk*. An early starchy second-crop variety which has been grown at the Canton Christian College for the last year. The growing season is 91 days, and the yield is about 2,400 pounds per acre.

68383. No. 463. *Wan fau paak kuk tsai*. A starchy second-crop variety, originally from the Wanfa district, which has been grown at the Canton Christian College for the last year. The growing season is 95 days, and the yield is about 2,100 pounds per acre.

68384. No. 464. *Tsuen shui kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for the last four years. The average growing season is 105 days, and the average yield is about 2,600 pounds per acre.

68385. No. 465. *Ng wa hoi woh*. A starchy second-crop variety, originally from the Ngwa district, which has been growing at the Canton Christian College for the last year. The growing season is 99 days, and the yield is about 1,600 pounds per acre.

68386. No. 466. *King chow paak fa chim kuk*. A starchy second-crop variety originally from Kingchow, in the island of Hainan, which has been grown at the Canton Christian College for one year. The growing season is 100 days, and the yield is about 2,300 pounds per acre.

68387. No. 467. *Haung kwang noh*. A second-crop glutinous variety which has been grown at the Canton Christian College for one year. The growing season is 90 days, and the yield is about 500 pounds per acre.

68388. No. 468. *Naam hoi yau chim kuk*. A starchy second-crop variety originally from the Naamboi district, which has been grown at the Canton Christian College for the last four years. The growing season is about 103 days, and the average yield is about 3,000 pounds per acre.

68389. No. 469. *Shui kai noh kuk*. A glutinous second-crop variety originally from Shuikai, which has been grown at the Canton Christian College for the last four years. The average growing season is 106 days, and the average yield is about 1,600 pounds per acre.

68390. No. 470. *Toi shaan cheung mui chui ue kuk*. A starchy second-crop variety originally from the Toishaan district, which has been

68361 to 68403—Continued.

grown at the Canton Christian College for the last year. The growing season is 96 days, and the yield is about 2,100 pounds per acre.

68391. No. 471. *Hoi niu kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for the last four years. The average growing season is 105 days, and the average yield is about 2,300 pounds per acre.

68392. No. 472. *Paak hok yau chim*. A starchy second-crop variety which has been grown at the Canton Christian College for the last four years. The average yield is about 2,600 pounds per acre.

68393. No. 473. *Taai po paak hok noh kuk*. A glutinous second-crop variety which has been grown at the Canton Christian College for the last four years. The average growing season is 98 days, and the average yield is about 2,500 pounds per acre.

68394. No. 474. *Toi shaan oo uk tsai kuk*. A starchy second-crop variety originally from the Toishaan district, which has been grown at the Canton Christian College for the last year. The growing season is 96 days, and the yield is about 2,400 pounds per acre.

68395. No. 475. *Ng tsuen noh chaap kuk*. A glutinous second-crop variety originally from Ngtsuen, a village on Honam Island, which has been grown at the Canton Christian College for the last year. The growing season is 105 days, and the yield is about 2,600 pounds per acre.

68396. No. 476. *Tsang sheng sz mui kuk*. A starchy second-crop variety originally from the Tsangsheng district, which has been grown at the Canton Christian College for the last year. The growing season is 95 days, and the yield is about 2,200 pounds per acre.

68397. No. 477. *Heung shaan noh chaap kuk*. A glutinous second-crop variety originally from the Heungshaan district, which has been grown at the Canton Christian College for four years. The average growing season is 98 days, and the average yield is about 2,600 pounds per acre.

68398. No. 478. *Shui kai wong noh kuk*. A glutinous second-crop variety originally from Shuilai, which has been grown at the Canton Christian College for four years. The growing season is about 98 days, and the average yield is about 1,900 pounds per acre.

68399. No. 479. *Kam shaan chim kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for the last year. The growing season is 97 days, and the yield is about 1,400 pounds per acre.

68400. No. 480. *Sai chim kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for the last year. The growing season is 91 days, and the yield is about 1,200 pounds per acre.

68361 to 68403—Continued.

68401. No. 481. *Tung koon paai hok sz miu kuk*. A starchy second-crop variety originally from the Tung-koon district, which has been grown at the Canton Christian College for the last four years. The average growing season is 102 days, and the average yield is about 1,900 pounds per acre.

68402. No. 482. *Paak hok yau chim kuk*. A starchy second-crop variety which has been grown at the Canton Christian College for four years. The average yield is about 2,400 pounds per acre.

68403. *SMILAX* sp. Smilacaceae.

No. 441. *Ma kaap*. An attractive ornamental vine with very large shiny leaves and large clusters of bright-red fruits which persist for a long period. Collected on Chauen Mountain, northern Kwantung.

68404 to 68414.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received September 18, 1926.

68404. *ACER BARBINERVE* Maxim. Aceraceae. **Maple.**

No. 6098. From the V. F. Kovalsky forest concession near Hengtaohotze. July 3, 1926. A shrubby maple, native to Manchuria, with coarsely toothed, five-lobed leaves.

For previous introduction see No. 65909.

68405. *ACER MANDSHURICUM* Maxim. Aceraceae. **Maple.**

No. 6099. From the V. F. Kovalsky forest concession, near Hengtaohotze. July 3, 1926. A hardy Manchurian maple which forms a shrub or small tree.

For previous introduction see No. 65480.

68406. *ACTAEA SPICATA* L. Ranunculaceae. **Black baneberry.**

No. 6325. From the White River Valley, near Bariam. July 24, 1926. A hardy herbaceous perennial, 3 feet high, with a rather long spike of bright-red, oblong berries.

For previous introduction see No. 65483.

68407. *AQUILEGIA OXYSEPALA* Trautv. and Mey. Ranunculaceae. **Columbine.**

No. 6304. Bariam. July 19, 1926. A hardy herbaceous perennial native to Siberia. The large flowers are blue, yellow, and white.

For previous introduction see No. 64766.

68408. *CALAMAGROSTIS* sp. Poaceae. **Grass.**

No. 6318. From the White River Valley, near Bariam. July 25, 1926. A grass from Manchuria, said to be good for hay.

68409. *CORNUS ALBA* L. Cornaceae. **Tartarian dogwood.**

No. 6324. From the White River Valley, near Bariam. July 24, 1926. A

68404 to 68414—Continued.

hardy ornamental shrub, native to Manchuria, producing creamy white fruits.

68410. *DAUCUS CAROTA* L. Apiaceae. **Carrot.**

No. 6336. Pingtingchow, Shansi. August 2, 1926. A short thick red variety from northern China.

68411. *PRUNUS TOMENTOSA* Thunb. Amygdalaceae. **Manchu cherry.**

No. 6075. Purchased from the agricultural section of the Manchurian Research Society, Harbin. June 30, 1926. A hardy fruiting shrubby cherry, native to Manchuria.

68412. *RHEUM* sp. Polygonaceae. **Rhubarb.**

No. 6328. From the White River Valley, near Bariam. July 23, 1926. A vigorous variety with leaves 6 to 18 inches across and stalks 12 to 20 inches long and sometimes an inch in diameter.

68413. *SALIX LIVIDA CINERASCENS* Wahlenb. Salicaceae. **Willow.**

No. 6125. Boketu. July 5, 1926. A very dwarf willow with small leaves which are mottled above and quite tomentose beneath. The bark is yellow to yellowish brown.

68414. *CRATAEGUS SANGUINEA* Pall. Malaceae.

No. 6334. From the White River Valley, near Bariam. July 31, 1926. A hardy ornamental tree, native to Manchuria, with roundish red and yellow fruits. The tree from which this material was obtained was quite small, about 10 feet high and only about 3 inches in diameter.

For previous introduction see No. 65693.

68415 to 68419.

From Rangoon, Burma. Seeds presented through Richard R. Willey, United States vice consul in charge. Received September, 1926.

68415. *CHAETOCHELOA ITALICA* (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. **Millet.**

This millet is cultivated to a limited extent on light sandy soils in the dry districts.

68416. *ORYZA SATIVA* L. Poaceae. **Rice.**

Theikpan Taungdeikpan paddy gives the best table rice in Upper Burma and is in great demand.

68417. *PANICUM MILIACEUM* L. Poaceae. **Proso.**

This grain, like millet, is grown as a dry crop on high ground.

68418. *PISUM SATIVUM* L. Fabaceae. **Pea.**

A variety which is grown throughout Burma both as a field and a garden crop. It is generally sown on light soils and silts.

68419. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**

A variety of hard wheat grown in the plains of Burma (Sagaing, Shwebo, and Mandalay), which is generally used for making flour. It can be grown profitably on black cotton soil.

68420 to 68825.

From Manchuria. Seeds obtained by P. H. Dorsett, agricultural explorer, Bureau of Plant Industry. Received June, July, August, and September, 1926.

68420 to 68816. SOJA MAX (L.) Piper
(*Glycine hispida* Maxim.). Fabaceae.
Soy bean.

The following seeds of huang tou (yellow bean) from the 1925 crop were obtained through the agricultural section of the Manchurian Research Society, Chinese Eastern Railway, during June, July, and August, 1926.

68420. No. 5820. Yaomyn. Beans yellow, almost round, with brown hilum. R. S.² No. 255.

68421. No. 5821. Shuanchenpu. Beans yellow, medium size, oblong; hilums brown.

68422. No. 5822. Shuanchenpu. Beans yellow, medium size, slightly oblong; hilums range from brown to almost black.

68423. No. 5823. Shuanchenpu. Beans yellow, of medium size, slightly oblong to round; hilums brown.

68424. No. 5824. Shuanchenpu. Beans yellow, of medium size, slightly oblong to round; hilums vary from brown to black.

68425. No. 5825. Antah. Beans yellow, slightly oblong to round, hilums vary from almost white to brown.

68426. No. 5826. Mangou. Beans yellow, hilums vary from white to nearly black.

68427. No. 5827. Shuanchenpu. Beans yellow, slightly oblong to round; hilums vary from brown to almost black.

68428. No. 5828. Shuanchenpu. Beans yellow, medium size, slightly oblong to almost round; hilums vary from brown to practically black.

68429. No. 5829. Shuanchenpu. Beans yellow, medium size, slightly oblong to nearly round; hilums vary from brown to almost black.

68430. No. 5830. Shuanchenpu. Beans yellow, medium size, oblong to almost round; hilums vary from brown to almost black.

68431. No. 5831. Antah. Beans yellow, medium size, oblong to nearly round; hilums vary from almost white to brown, sometimes to nearly black.

68432. No. 5832. Shuanchenpu. Beans yellow, medium size, oblong to practically round; hilums vary from nearly white to almost black.

68433. No. 5833. Shuanchenpu. Beans yellow, medium size, oblong to almost round; hilums range from brown to almost black.

68434. No. 5834. Shuanchenpu. Beans yellow, medium size, oblong to nearly round; hilums vary from light to dark brown, sometimes to nearly black.

68435. No. 5835. Antah. Beans yellow, average size, oblong to round; hilums vary from almost white to brown and nearly black.

68420 to 68825—Continued.

68436. No. 5836. Shuanchenpu. Beans yellow, medium size, oblong to round; hilums vary from brown to almost black. R. S. No. 17.

68437. No. 5837. Antah. Beans yellow, average size, oblong; hilums vary from almost white to dark brown. R. S. No. 146.

68438. No. 5838. Shuanchenpu. Beans yellow, medium size, oblong to nearly round; hilums vary from light to dark brown and almost black. R. S. No. 67.

68439. No. 5839. Shuanchenpu. Beans yellow, medium size, oblong to round; hilums vary from nearly white to brown and almost black. R. S. No. 20.

68440. No. 5840. Shuanchenpu. Beans yellow, below the average size, oblong to round; hilums grading from light to dark brown. R. S. No. 72.

68441. No. 5841. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums light brown. R. S. No. 43.

68442. No. 5842. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums dark brown ranging to almost black. R. S. No. 85.

68443. No. 5843. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, sometimes to almost black. R. S. No. 45.

68444. No. 5844. Shuanchenpu. Beans yellow, below average size, oblong to round; hilums range from light to dark brown and in some cases to almost black. R. S. No. 51.

68445. No. 5845. Duitsinshan. Beans yellow, larger than the average, oblong to round; hilums vary from almost white to dark brown. R. S. No. 206.

68446. No. 5846. Shuanchenpu. Beans yellow, below the average size, oblong to round; hilums vary from light to dark brown. R. S. No. 73.

68447. No. 5847. Shuanchenpu. Beans yellow, average size, oblong to round; hilums vary from nearly white to dark brown, sometimes practically black. R. S. No. 57.

68448. No. 5848. Antah. Beans yellow, average size, oval to round; hilums vary from white to deep brown, sometimes to almost black. R. S. No. 186.

68449. No. 5849. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 225.

68450. No. 5850. Antah. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 187.

68451. No. 5851. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and almost black. R. S. No. 34.

² R. S. = Research Society.

68420 to 68825—Continued.

68452. No. 5852. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, in some instances to almost black. R. S. No. 100.
68453. No. 5853. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 25.
68454. No. 5854. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from white to dark brown. R. S. No. 209.
68455. No. 5855. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 59.
68456. No. 5856. Antah. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 193.
68457. No. 5857. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 361.
68458. No. 5858. Shuanchenpu. Beans yellow, average size, oblong to round; hilums vary from very light to very dark brown, sometimes to almost black. R. S. No. 53.
68459. No. 5859. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to light and dark brown. R. S. No. 24.
68460. No. 5860. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 2.
68461. No. 5861. Shuanchenpu. Beans yellow, less than average size, oval to almost round; hilums vary from light to dark brown, occasionally black. R. S. No. 13.
68462. No. 5862. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from very light to dark brown, sometimes to almost black. R. S. No. 286.
68463. No. 5863. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 40.
68464. No. 5864. Shuanchenpu. Beans yellow, below average size, oblong to round; hilums vary from white to dark brown, sometimes to almost black. R. S. No. 30.
68465. No. 5865. Shuanchenpu. Beans yellow, less than average size, oblong to round; hilums vary from light to dark brown, sometimes to almost black. R. S. No. 64.
68466. No. 5866. Shuanchenpu. Beans yellow, average size, oblong to round; hilums vary from light to quite dark brown, sometimes to almost black. R. S. No. 18.

68420 to 68825—Continued.

68467. No. 5867. Antah. Beans yellow, over average size, oblong to almost round; hilums vary from almost white to dark brown. R. S. No. 141.
68468. No. 5868. Antah. Beans yellow, average size, oblong to almost round; hilums almost white with a few light to dark brown. R. S. No. 150.
68469. No. 5869. Antah. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown. R. S. No. 158.
68470. No. 5871. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, with a few almost black. R. S. No. 31.
68471. No. 5872. Shuanchenpu. Beans yellow, below average size, oblong to round; hilums vary from light to dark brown, and occasionally to almost black. R. S. No. 26.
68472. No. 5873. Antah. Beans yellow, average size, oval to almost round; hilums are almost white, a few vary from light to dark brown. R. S. No. 203.
68473. No. 5874. Antah. Beans yellow, average size, oblong to almost round; hilums almost white. R. S. No. 147.
68474. No. 5875. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 22.
68475. No. 5876. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 371.
68476. No. 5877. Yaomyn. Beans yellow, average size, oval to almost round; hilums vary from very light to very dark brown and occasionally to almost black. R. S. No. 293.
68477. No. 5878. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, occasionally to almost black. R. S. No. 81.
68478. No. 5879. Sanchahe. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 378.
68479. No. 5880. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown. R. S. No. 282.
68480. No. 5881. Yaomyn. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown. R. S. No. 282.
68481. No. 5882. Antah. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown. R. S. No. 178.
68482. No. 5883. Antah. Beans yellow, average size, oblong to nearly round; hilums are almost white. R. S. No. 161.

68420 to 68825—Continued.

68483. No. 5884. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown. R. S. No. 5.
68484. No. 5885. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from light to dark brown, sometimes to almost black. R. S. No. 38.
68485. No. 5886. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 10.
68486. No. 5887. Antah. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown. R. S. No. 162.
68487. No. 5888. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 70.
68488. No. 5889. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums rather dark brown. R. S. No. 64.
68489. No. 5890. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 66.
68490. No. 5891. Antah. Beans yellow, average size, oblong to nearly round; hilums are almost white. R. S. No. 168.
68491. No. 5892. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, occasionally to almost black. R. S. No. 80.
68492. No. 5894. Antah. Beans yellow, average size, oblong to nearly round; hilums vary from white to dark brown. R. S. No. 125.
68493. No. 5895. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown. R. S. No. 69.
68494. No. 5896. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 78.
68495. No. 5897. Mangou. Beans yellow, average size, oblong to round; hilums mostly white, a few are light to dark brown and occasionally almost black. R. S. No. 312.
68496. No. 5898. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown. R. S. No. 302.
68497. No. 5899. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown; a few are almost black. R. S. No. 327.
68498. No. 5900. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 21.

68420 to 68825—Continued.

68499. No. 5901. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 369.
68500. No. 5902. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 354.
68501. No. 5903. Duitsinschan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and frequently to almost black. R. S. No. 218.
68502. No. 5904. Antah. Beans yellow, average size, oval to almost round; hilums vary from nearly white to dark brown. R. S. No. 166.
68503. No. 5905. Shuanchenpu. Beans yellow, below medium size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 32.
68504. No. 5906. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 353.
68505. No. 5907. Mangou. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 310.
68506. No. 5908. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and sometimes to almost black. R. S. No. 333.
68507. No. 5909. Yaomyn. Beans yellow, less than average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 291.
68508. No. 5910. Yaomyn. Beans yellow, smaller than the average size, oblong to almost round; hilums vary from nearly white to dark brown and sometimes to almost black. R. S. No. 292.
68509. No. 5911. Antah. Beans yellow, average size, oblong to almost round; hilums vary from white to dark brown and occasionally to almost black. R. S. No. 196.
68510. No. 5912. Antah. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 176.
68511. No. 5913. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 342.
68512. No. 5914. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 279.
68513. No. 5915. Antah. Beans yellow, average size, oblong to oval; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 183.

68420 to 68825—Continued.

68514. No. 5916. Shuanchenpu. Beans yellow, less than average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 46.
68515. No. 5917. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 281.
68516. No. 5918. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 373.
68517. No. 5919. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 304.
68518. No. 5920. Yaomyn. Beans yellow, less than average size, and almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 259.
68519. No. 5921. Yaomyn. Beans yellow, average size, oval to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 261.
68520. No. 5922. Antah. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 168.
68521. No. 5923. Duitsinshan. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 205.
68522. No. 5924. Mangou. Beans yellow, above the average size, almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 314.
68523. No. 5925. Antah. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 170.
68524. No. 5926. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and a few to almost black. R. S. No. 315.
68525. No. 5927. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 35.
68526. No. 5928. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 97.
68527. No. 5929. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 217.
68528. No. 5930. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 341.

68420 to 68825—Continued.

68529. No. 5931. Mangou. Beans yellow, average size, oval to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 365.
68530. No. 5932. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 15.
68531. No. 5933. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 6.
68532. No. 5934. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 262.
68533. No. 5935. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to black. R. S. No. 266.
68534. No. 5936. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from nearly white to dark brown and occasionally black. R. S. No. 216.
68535. No. 5937. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown and a few are almost black. R. S. No. 290.
68536. No. 5938. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 368.
68537. No. 5939. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, and a few are nearly black. R. S. No. 308.
68538. No. 5940. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 87.
68539. No. 5941. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 33.
68540. No. 5942. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 311.
68541. No. 5944. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with an occasional one almost black. R. S. No. 366.
68542. No. 5945. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown with a few almost black. R. S. No. 255.
68543. No. 5946. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 41.

68420 to 68825—Continued.

68544. No. 5947. Sanchahe. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 397.
68545. No. 5948. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 309.
68546. No. 5950. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 44.
68547. No. 5951. Mangou. Beans yellow, normal size, oblong to nearly round; hilums vary from almost white to dark brown; a few are almost black. R. S. No. 343.
68548. No. 5952. Mangou. Beans yellow, above average size, oblong to almost round; hilums vary from light to dark brown, but the majority are white. R. S. No. 301.
68549. No. 5953. Mangou. Beans yellow, average size, oblong to almost round; hilums are mostly white with a few light to dark colored. R. S. No. 340.
68550. No. 5954. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 325.
68551. No. 5955. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown with an occasional one almost black. R. S. No. 247.
68552. No. 5956. Yaomyn. Beans yellow, below the average size, oval to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 260.
68553. No. 5957. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 321.
68554. No. 5958. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and an occasional one to almost black. R. S. No. 345.
68555. No. 5959. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 329.
68556. No. 5960. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 99.
68557. No. 5961. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 334.
68558. No. 5962. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly

68420 to 68825—Continued.

- white to dark brown, occasionally to almost black. R. S. No. 372.
68559. No. 5963. Antah. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown with a few almost black. R. S. No. 192.
68560. No. 5964. Antah. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 164.
68561. No. 5965. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 199.
68562. No. 5966. Sanchahe. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 383.
68563. No. 5967. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown; occasionally one is almost black. R. S. No. 165.
68564. No. 5968. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 370.
68565. No. 5969. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown with a few almost black. R. S. No. 175.
68566. No. 5970. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, and a few are almost black. R. S. No. 331.
68567. No. 5971. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 359.
68568. No. 5972. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 48.
68569. No. 5973. Mangou. Beans yellow, average size oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 330.
68570. No. 5974. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 152.
68571. No. 5975. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 313.
68572. No. 5977. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 188.
68573. No. 5978. Anda. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown with a few almost black. R. S. No. 179.

63420 to 63825—Continued.

63574. No. 5979. Mangou. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 338.
63575. No. 5980. Yaomyn. Beans yellow, medium size, oblong to almost round; hilums vary from nearly white to dark brown, a few to almost black. R. S. No. 275.
63576. No. 5981. Mangou. Beans yellow, normal size, oblong to almost round; hilums vary from light to dark brown with an occasional one almost black. R. S. No. 355.
63577. No. 5982. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few almost black. R. S. No. 358.
63578. No. 6020. Duitsinshan. Beans are yellow; now and then there is one of another color, a selected sample of first grade, oblong to almost round; hilums vary from almost white to dark brown, and a few are almost black. R. S. No. 212.
63579. No. 6021. Duitsinshan. Beans yellow, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to nearly black. R. S. No. 207.
63580. No. 6022. Eighth District, Harbin. Beans, yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown with a few which are almost black. R. S. No. 229.
63581. No. 6023. Eighth District, Harbin. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 233.
63582. No. 6024. Anda. Beans yellow, average size, oblong to almost round; hilums vary from white to dark brown, and a few are almost black. R. S. No. 189.
63583. No. 6025. Eighth District, Harbin. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 278.
63584. No. 6026. Anda. Yellow beans, average size, oblong to almost round; hilums vary from almost white to dark brown and almost black. R. S. No. 190.
63585. No. 6027. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 303.
63586. No. 6028. Sanchahe. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 377.
63587. No. 6029. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 348.

68420 to 68825—Continued.

68588. No. 6030. Harbin. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown, in a few to nearly black. R. S. No. 234.
68589. No. 6031. Anda. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 197.
68590. No. 6032. Anda. Beans yellow, normal size, oblong to almost round; hilums vary from nearly white to dark brown and sometimes to almost black. R. S. No. 104.
68591. No. 6033. Mangou. Beans yellow, over average size, oblong to almost round; hilums vary from nearly white to dark brown, almost black. R. S. No. 256.
68592. No. 6034. Anda. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown, almost black. R. S. No. 198.
68593. No. 6035. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark pink, occasionally to almost black. R. S. No. 328.
68594. No. 6036. Shuanchenpu. Beans yellow, below average size; hilums vary from almost white to dark brown, sometimes almost black. R. S. No. 93.
68595. No. 6037. Sanchahe. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 381.
68596. No. 6038. Mangou. Beans yellow, average size, oblong to nearly round; hilums range from almost white to dark brown and a few are almost black. R. S. No. 374.
68597. No. 6039. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 49.
68598. No. 6040. Mangou. Beans yellow, below average size, oblong to nearly round; hilums range from almost white to dark brown, occasionally almost black. R. S. No. 375.
68599. No. 6041. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown. R. S. No. 91.
68600. No. 6042. Sanchahe. Beans yellow, average size, oblong to nearly round; hilums range from almost white to dark brown, sometimes almost black. R. S. No. 382.
68601. No. 6043. Yaomyn. Bean yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 278.
68602. No. 6044. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, and a few are almost black. R. S. No. 351.

68420 to 68825—Continued.

68603. No. 6045. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 360.
68604. No. 6046. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 285.
68605. No. 6047. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 363.
68606. No. 6048. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown with a few almost black. R. S. No. 109.
68607. No. 6049. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 267.
68608. No. 6050. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark pink, and a few are almost black. R. S. No. 274.
68609. No. 6051. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally almost black. R. S. No. 320.
68610. No. 6052. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes almost black. R. S. No. 142.
68611. No. 6053. Sanchahe. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 380.
68612. No. 6054. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 194.
68613. No. 6055. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown; a few are quite black. R. S. No. 215.
68614. No. 6056. Harbin. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 238.
68615. No. 6057. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 105.
68616. No. 6058. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 208.
68617. No. 6059. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 306.

68420 to 68825—Continued.

68618. No. 6060. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 151.
68619. No. 6061. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 349.
68620. No. 6062. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 307.
68621. No. 6063. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 116.
68622. No. 6064. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally almost black. R. S. No. 277.
68623. No. 6078. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 324.
68624. No. 6079. Mangou. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 326.
68625. No. 6080. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and occasionally to almost black. R. S. No. 120.
68626. No. 6081. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 276.
68627. No. 6082. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, and occasionally to almost black. R. S. No. 305.
68628. No. 6083. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, and a few are almost black. R. S. No. 318.
68629. No. 6084. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and occasionally to almost black. R. S. No. 169.
68630. No. 6085. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and in some instances to almost black. R. S. No. 346.
68631. No. 6086. Mangou. Beans yellow, average size, oblong to nearly round; hilums range from almost white to dark brown, and occasionally to almost black. R. S. No. 364.
68632. No. 6087. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes almost black. R. S. No. 263.

68420 to 68825—Continued.

68633. No. 6089. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to light brown, occasionally to almost black. R. S. No. 119.
68634. No. 6090. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 367.
68635. No. 6091. Sanchahe. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 376.
68636. No. 6092. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 269.
68637. No. 6093. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 317.
68638. No. 6094. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 222.
68639. No. 6095. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 322.
68640. No. 6096. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and a few are almost black. R. S. No. 336.
68641. No. 6097. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 221.
68642. No. 6100. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 335.
68643. No. 6101. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and occasionally to almost black. R. S. No. 62.
68644. No. 6102. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown or almost black. R. S. No. 323.
68645. No. 6103. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, and in some instances are almost black. R. S. No. 362.
68646. No. 6104. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to nearly black. R. S. No. 173.
68647. No. 6105. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly

68420 to 68825—Continued.

- white to dark brown, occasionally to almost black. R. S. No. 344.
68648. No. 6106. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown or nearly black. R. S. No. 350.
68649. No. 6107. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown or nearly black. R. S. No. 165.
68650. No. 6108. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to nearly black. R. S. No. 357.
68651. No. 6109. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 111.
68652. No. 6110. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to nearly black. R. S. No. 107.
68653. No. 6111. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally black. R. S. No. 332.
68654. No. 6112. Shuanchenpu. Beans yellow, average size, hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 76.
68655. No. 6113. Shuanchenpu. Beans yellow, average size, hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 47.
68656. No. 6114. Mangou. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 319.
68657. No. 6115. Anda. Beans yellow, larger than the average, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 180.
68658. No. 6116. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 114.
68659. No. 6117. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 77.
68660. No. 6118. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 223.
68661. No. 6119. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 12.
68662. No. 6120. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from white to dark brown and occasionally to almost black. R. S. No. 79.

68420 to 68825—Continued.

68663. No. 6121. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 268.
68664. No. 6122. Anda. Beans yellow, average size, oblong to almost round, hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 134.
68665. No. 6123. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 288.
68666. No. 6124. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 23.
68667. No. 6145. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 131.
68668. No. 6146. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 249.
68669. No. 6147. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 137.
68670. No. 6148. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 174.
68671. No. 6149. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 19.
68672. No. 6149-a. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 243.
68673. No. 6150. Anda. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 181.
68674. No. 6151. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 90.
68675. No. 6152. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 82.
68676. No. 6153. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 283.
68677. No. 6154. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost

68420 to 68825—Continued.

- white to dark brown, occasionally to almost black. R. S. No. 245.
68678. No. 6155. Anda. Beans yellow, fair grade, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 121.
68679. No. 6156. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 298.
68680. No. 6157. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 88.
68681. No. 6158. Anda. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally practically black. R. S. No. 191.
68682. No. 6159. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 136.
68683. No. 6160. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 139.
68684. No. 6161. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, occasionally to practically black. R. S. No. 74.
68685. No. 6162. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 265.
68686. No. 6163. Shuanchenpu. Beans yellow, a little below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 83.
68687. No. 6164. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 144.
68688. No. 6165. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 201.
68689. No. 6166. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 84.
68690. No. 6167. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 224.
68691. No. 6168. Anda. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to practically black. R. S. No. 184.

68420 to 68825—Continued.

68692. No. 6169. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 284.
68693. No. 6170. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 211.
68694. No. 6171. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 236.
68695. No. 6172. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, a few to almost black. R. S. No. 7.
68696. No. 6173. Anda. Beans yellow, below the average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 113.
68697. No. 6174. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes black. R. S. No. 29.
68698. No. 6175. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 14.
68699. No. 6176. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to practically black. R. S. No. 153.
68700. No. 6177. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 56.
68701. No. 6263. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from light to dark brown, occasionally to almost black. R. S. No. 270.
68702. No. 6264. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, a few being almost black. R. S. No. 185.
68703. No. 6265. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 216.
68704. No. 6266. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 95.
68705. No. 6267. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown or almost black. R. S. No. 172.
68706. No. 6268. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from al-

68420 to 68825—Continued.

- most white to dark brown, occasionally to nearly black. R. S. No. 294.
68707. No. 6269. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white through the browns to black. R. S. No. 202.
68708. No. 6270. Yaomyn. Beans yellow, below the average size, oblong to nearly round; hilums vary from light to dark brown, occasionally to black. R. S. No. 300.
68709. No. 6271. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 200.
68710. No. 6272. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to nearly black. R. S. No. 246.
68711. No. 6273. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 252.
68712. No. 6274. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, a few to practically black. R. S. No. 287.
68713. No. 6275. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from light brown to almost black. R. S. No. 86.
68714. No. 6276. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to quite black. R. S. No. 295.
68715. No. 6277. Shuanchenpu. Beans yellow, below the average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 4.
68716. No. 6278. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 8.
68717. No. 6279. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to black. R. S. No. 133.
68718. No. 6280. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 101.
68719. No. 6281. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 89.
68720. No. 6282. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 126.

68420 to 68825—Continued.

68721. No. 6283. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 11.
68722. No. 6284. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 103.
68723. No. 6285. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to nearly black. R. S. No. 297.
68724. No. 6286. Duitsinshan. Beans yellow, below average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 213.
68725. No. 6287. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 296.
68726. No. 6288. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown; a few are nearly black. R. S. No. 39.
68727. No. 6289. Anda. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 182.
68728. No. 6290. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 257.
68729. No. 6291. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 118.
68730. No. 6292. Anda. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 159.
68731. No. 6293. Yaomyn. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 289.
68732. No. 6294. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown and a few to black. R. S. No. 204.
68733. No. 6295. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 63.
68734. No. 6296. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 117.
68735. No. 6297. Anda. Beans yellow, average size, oblong to round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 149.

68420 to 68825—Continued.

68736. No. 6298. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 254.
68737. No. 6299. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 156.
68738. No. 6300. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally almost black. R. S. No. 220.
68739. No. 6301. Shuanchenpu. Beans yellow, below average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 3.
68740. No. 6302. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 135.
68741. No. 6303. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 272.
68742. No. 6337. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 256.
68743. No. 6338. Duitsinshan. Beans yellow, above average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 210.
68744. No. 6339. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 235.
68745. No. 6340. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 98.
68746. No. 6341. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 75.
68747. No. 6342. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 280.
68748. No. 6343. Yaomyn. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 299.
68749. No. 6344. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to nearly black. R. S. No. 123.
68750. No. 6345. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 240.

68420 to 68825—Continued.

68751. No. 6346. Yaomyn. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to very dark brown, sometimes to almost black. R. S. No. 271.
68752. No. 6400. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 264.
68753. No. 6401. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to almost black. R. S. No. 102.
68754. No. 6402. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 140.
68755. No. 6403. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 214.
68756. No. 6404. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 247.
68757. No. 6405. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 251.
68758. No. 6406. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 36.
68759. No. 6407. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, a few to almost black. R. S. No. 143.
68760. No. 6408. Shuanchenpu. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, almost black. R. S. No. 96.
68761. No. 6409. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 9.
68762. No. 6410. Harbin. Beans yellow, above the average size, oblong to almost round; hilums vary from white to dark brown, occasionally to almost black. R. S. No. 242.
68763. No. 6411. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 129.
68764. No. 6412. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 148.
68765. No. 6413. Shuanchenpu. Beans yellow, average size, oblong to nearly round; hilums vary from almost

68420 to 68825—Continued.

- white to dark brown, occasionally to almost black. R. S. No. 65.
68766. No. 6414. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 52.
68767. No. 6415. Duitsinshan. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 226.
68768. No. 6416. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 58.
68769. No. 6417. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 160.
68770. No. 6418. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 108.
68771. No. 6419. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 60.
68772. No. 6420. Yaomyn. Beans yellow, below average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally black. R. S. No. 273.
68773. No. 6421. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 37.
68774. No. 6422. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 239.
68775. No. 6423. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 171.
68776. No. 6424. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 112.
68777. No. 6425. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 138.
68778. No. 6426. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 177.
68779. No. 6427. Anda. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to almost black. R. S. No. 145.
68780. No. 6428. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown and occasionally to almost black. R. S. No. 115.

68420 to 68825—Continued.

68781. No. 6429. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, occasionally to almost black. R. S. No. 241.
68782. No. 6430. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, occasionally to black. R. S. No. 219.
68783. No. 6431. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown or black. R. S. No. 122.
68784. No. 6432. Duitsinshan. Beans yellow, average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 227.
68785. No. 6433. Harbin. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown, sometimes to almost black. R. S. No. 244.
68786. No. 6434. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 231.
68787. No. 6435. Harbin. Beans yellow, above average size, oblong to almost round; hilums vary from nearly white to dark brown and occasionally to almost black. R. S. No. 250.
68788. No. 6436. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 110.
68789. No. 6437. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 130.
68790. No. 6438. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 124.
68791. No. 6439. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 195.
68792. No. 6440. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 230.
68793. No. 6441. Harbin. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 228.
68794. No. 6442. Anda. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to black. R. S. No. 154.
68795. No. 6443. Shuanchenpu. Beans yellow, average size, oblong to almost round; hilums vary from almost

68420 to 68825—Continued.

- white to dark brown, sometimes to almost black. R. S. No. 55.
68796. No. 6444. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, occasionally to black. R. S. No. 237.
68797. No. 6445. Anda. Beans yellow, above average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 155.
68798. No. 6446. Harbin. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black.
68799. No. 6447. Anda. Beans yellow, average size, oblong to almost round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 106.
68800. No. 6448. Mangou. Beans yellow, average size, oblong to nearly round; hilums vary from almost white to dark brown, sometimes to almost black. R. S. No. 339.
68801. No. 6449. Harbin. Beans yellow, a mixed collection, culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68802. No. 6450. Harbin. Beans greenish yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68803. No. 6450-a. Harbin. Beans greenish yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68804. No. 6450-b. Harbin. Beans greenish yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68805. No. 6450-c. Harbin. Beans creamy yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68806. No. 6450-d. Harbin. Beans creamy yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68807. No. 6450-e. Harbin. Beans greenish yellow with brown spots, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68808. No. 6450-f. Harbin. Beans round and black, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.

68420 to 68825—Continued.

68809. No. 6450-g. Harbin. Beans buff brown, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68810. No. 6450-h. Harbin. Beans long, green, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68811. No. 6450-i. Harbin. Beans brown, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68812. No. 6450-j. Harbin. Beans buff, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68813. No. 6450-k. Harbin. Beans dull greenish, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68814. No. 6450-l. Harbin. Beans long, black, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68815. No. 6450-m. Harbin. Beans reddish brown, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
68816. No. 6450-n. Harbin. Beans light greenish yellow, a mixed collection culled out of the many samples of commercial soy beans submitted to the grading board of the Chinese Eastern Railway, season of 1925.
- 68817 and 68818. *LONICERA CAERULEA EDULIS* (Turcz.) Regel. Caprifoliaceae.
Honeysuckle.
68817. No. 5983. Kaolingtzu. June 22, 1926. A bush 10 to 12 feet in height, producing oblong fruits, one-half to three-fourths of an inch in length and about one-fourth of an inch in diameter, which are very dark purple, almost black with plenty of bloom. The fruits are not very good when fresh, but are extensively used in the vicinity of Vladivostok for making jam.
68818. No. 6143. Hingan. July 8, 1926. Found in peaty soil where the climate, though now dry, is at seasons apparently very wet.
68819. *PRUNUS SIBIRICA* L. Amygdalaceae.
Siberian apricot.
- No. 6315. From the White River Valley, near Bariam. July 29, 1926. *Shanhsing* (wild mountain apricot). The plants are rarely more than 3 feet in height and are frequently heavily fruited. The fruits vary greatly in size and shape, the largest found being three-fourths of an inch in diameter. They range from pale yellowish green to golden and very often to almost red.

68420 to 68825—Continued.

68820. *PRUNUS PADUS* L. Amygdalaceae.
European bird cherry.
- No. 6305. Bariam. July 19, 1926.
68821. *RIBES DIACANTHA* Pall. Grossulariaceae.
Red currant.
- No. 6312. Near Bariam. July 21, 1926. The fruit is bright red and of very good quality.
68822. *ROSA* sp. Rosaceae. Rose.
- No. 6326. From the White River Valley, near Bariam. July 24, 1926. Very spiny plants, with the hips pale pink to almost red.
68823. *RUBUS IDAEUS STRIGOSUS* (Michx.) Maxim. Rosaceae. Raspberry.
- No. 6322. From the White River Valley, near Bariam. July 23, 1926. A pale-pink fruited raspberry of good size, which caps easily.
68824. *RUBUS SAXATILIS* L. Rosaceae.
Dewberry.
- No. 6323. From the White River Valley, near Bariam. July 24, 1926. A dewberry producing large bright-red fruits of good quality.
68825. *VIOLA TENUICORNIS* W. Becker. Violaceae. Violet.
- No. 5987. Kaolingtzu. June 22, 1926. The flowers of this plant are rather light purple or violet, and are of fairly good size for a wild variety.
- 68826 to 68828. *FRAGARIA* sp. Rosaceae.
Strawberry.
- From St. Jean le Blanc, par Orleans, France. Plants presented by Edmond Versin. Received March 4, 1926. Numbered September, 1926.
- Locally developed varieties.
68826. *FRAGARIA* sp.
Géante Rouge.
68827. *FRAGARIA* sp.
L'Indispensable.
68828. *FRAGARIA* sp.
Nomblot Bruneau.
- 68829 to 68835.
- From Sao Paulo, Brazil. Seeds presented by Dr. Henrique Löbbe, Eng. Agronomo, Director do Campo de Sementes de Sao Simao, through A. J. Pieters, Bureau of Plant Industry. Received September 27, 1926.
- 68829 to 68831. *ARACHIS* spp. Fabaceae.
Peanut.
68829. *ARACHIS HYPOGAEA* L.
- A small-podded form from southern Brazil.
- 68830 and 68831. *ARACHIS NAMBYQUARAE* Hoehne.
- A Brazilian relative of the peanut, which, according to Hoehne (*Historia Natural Botanica, Matto Grosso, Brazil, Part XII*), is a much-branched, prostrate, or ascending plant. The pod is 2 to 3 inches long, with usually two seeds which are edible and very oily.
- For previous introduction see No. 65296.

68829 to 68835—Continued.

68830. A shorter podded form than No. 68831.

68831. A long-podded form.

68832. *CANAVALLIA ENSIFORMIS* (L.) DC. Fabaceae. Jack bean.

Locally grown seeds.

68833 to 68835. *STIZOLOBIUM* spp. Fabaceae.

Coarse leguminous annual vines. Locally grown seeds.

68833. *STIZOLOBIUM ATERRIMUM* Piper and Tracy. Mauritius bean.

68834. *STIZOLOBIUM DEERINGIANUM* Bort. Florida velvet bean.

68835. *STIZOLOBIUM NIVEUM* (Roxb.) Kuntze. Lyon bean.

68836. *ACACIA RETINODES* Schlecht. Mimosaceae.

From Paris, France. Seeds obtained from Vilmorin-Andrieux & Co. Received September 15, 1926.

Var. *floribunda*. A tall shrub or small tree, native to Australia, with feathery foliage and dense yellow flower heads.

68837 to 68866.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, director, botanic gardens. Received September 29, 1926.

68837 to 68840. *ALBIZZIA* spp. Mimosa-ceae.

68837 and 68838. *ALBIZZIA FALCATA* (L.) Backer (*A. moluccana* Miquel).

A rapidly growing tree with large feathery leaves and small globular flower heads. Because of its thin foliage it is grown in Ceylon as a shade for field crops.

For previous introduction see No. 67965.

68837. No. 1. 68838. No. 2.

68839. *ALBIZZIA ROTUNDATA* Blume.

An East Indian leguminous tree with rounded leaflets, of possible use as a shade for crop plants.

68840. *ALBIZZIA SAPONARIA* (Lour.) Blume.

A small tree, 65 feet or less high, with gray bark and alternate double compound leaves. The bark contains saponin and is used by the natives of the Philippines as soap for washing their hair. Native to the Philippines and the East Indies.

68841. *BARYXYLUM INERME* (Roxb.) Pierre (*Peltophorum ferrugineum* Benth.). Caesalpinaceae.

A large, quick-growing, symmetrical tree, with a spreading top and graceful feathery foliage, indigenous to the dry regions of Ceylon and Malaya, where the annual rainfall varies from 50 to 70 inches. The young leaves and shoots are covered with a brown velvety tomentum. The tree flowers twice a year at irregular seasons, some specimens being in blossom while others near by are in ripe fruit. The flowers are rusty yellow, sweet scented, and borne in large erect

68837 to 68866—Continued.

panicles. The tree is a magnificent sight when in full bloom. It is especially suited to dry districts, but also thrives to perfection in the moist regions up to 1,800 feet.

For previous introduction see No. 51810.

68842 to 68844. *BAUHINIA* spp. Caesalpinaceae.

68842. *BAUHINIA MONANDRA* Kurz. Butterfly bauhinia.

An ornamental pink-flowered tropical African bush or small tree.

For previous introduction see No. 50734.

68843. *BAUHINIA TOMENTOSA* L. St. Thomas tree.

A handsome leguminous shrub, native to tropical Asia and Africa, with clusters of large showy yellow flowers.

For previous introduction see No. 38651.

68844. *BAUHINIA VIOLACEA* Hort.

A leguminous tropical plant, native to the East Indies.

68845. *CALOPOGONIUM MUCUNOIDES* Desv. Fabaceae.

A tropical American plant which is said to be popular as a cover plant in Sumatra, according to J. N. Milsum and E. A. Curtler (Malayan Agricultural Journal, vol. 13, No. 8, August, 1925, pp. 271-272). These authorities state that a fair cover is obtained after three months from sowing, when flowering commences. The plant is a vigorous creeping herb which forms a mat of foliage 1½ feet or so in thickness over the soil. The stems, 3 to 10 feet long, form roots at each node. The pale blue flowers are in racemes 1 to 4 inches long.

For previous introduction see No. 66085.

68846 to 68848. *CASSIA* spp. Caesalpinaceae.

66846. *CASSIA MARGINATA* Roxb.

A small, graceful tropical tree with rose-colored flowers and drooping branches. Native to the East Indies.

68847. *CASSIA SURATTENSIS* Burm. f. (*C. glauca* Lam.).

A tropical leguminous shrub or small tree with pale-green compound leaves and clusters of pale-yellow flowers. Native to the East Indies.

For previous introduction see No. 33562.

68848. *CASSIA* sp.

A tropical leguminous plant native to the East Indies.

68849 to 68852. *CROTALARIA* spp. Fabaceae.

68849. *CROTALARIA GRANTIANA* Harv.

A small slender herbaceous plant with an erect, branching, leafy stem about a foot high and small yellow flowers. Native to Natal.

For previous introduction see No. 51833.

68837 to 68866—Continued.

68850. *CROTALARIA USARAMOENSIS* Baker f.

This East African *crotalaria* has been tested in Java as a green manure, according to Dr. P. J. S. Cramer, Director of the Department of Agriculture, Buitenzorg. Doctor Cramer states that it has proved very successful as a green manure when grown in alternation with corn, producing large quantities of vegetation rich in nitrogen. In the cinchona plantations it is very satisfactory, as it endures partial shade and forms a dense, low growth, which keeps the edges of the terraces together.

For previous introduction see No. 64064.

68851. *CROTALARIA VALETONII* Backer.

An East Indian plant described by C. A. Backer (Bulletin du Jardin Botanique, Buitenzorg, vol. 2, p. 324) as an erect, densely branched herb, 1 to 4 feet high, with simple, hairy leaves and yellow flowers in terminal, 5-flowered to 12-flowered racemes.

For previous introduction see No. 65299.

68852. *CROTALARIA VERRUCOSA* L.

A much-branched leguminous herb, about 2 feet high, found throughout the Tropics of both hemispheres. The white and blue flowers are in many-flowered, compact racemes.

For previous introduction see No. 65300.

68853. *DETARIUM SENEGALENSE* Gmel. Caesalpiniaceae.

A large spreading evergreen South African tree, up to 60 feet high, which bears large numbers of yellow oval smooth-skinned fruits about 3 inches long. The jellylike pulp is sweet and of pleasant flavor. The tree grows in regions practically free from frost.

68854. *DONAX CANNAEFORMIS* (Forst.) Rolfe. Marantaceae.

A shrubby moisture-loving perennial, up to 3 meters high, native to tropical America. The large leaves resemble those of a canna, and the white flowers are in lax spikes.

68855. *ERYTHRINA VARIEGATA ORIENTALIS* (L.) Merr. Fabaceae.

A moderate-sized spineless leguminous East Indian tree of very rapid growth, with trifoliate leaves and red flowers. In Ceylon, where it is called the "dadap," the tree is used to shade crop plants and also the foliage is lopped for use as green manure. It is being tested as a cover plant at the experiment station, Peradeniya.

For previous introduction see No. 67967.

68856 to 68859. *FICUS* spp. Moraceae.

68856. *FICUS AMPELOS* Burm. f.

A tropical Indian tree with rough ovate-oblong leaves and small grape-like fruits.

68857. *FICUS KORTHALSI* Miquel.

A wild fig from southern Borneo which resembles *Ficus elastica* in foliage and habit. The leaves are rigid

68837 to 68866—Continued.

and leathery and up to 8 inches long, and the ellipsoid fruits are nearly an inch in length.

68858. *FICUS HIRTA* Vahl.

A shrub or small tree with leaves up to a foot long, from the tropical Himalayas.

68859. *FICUS RETUSA* L.

A large tropical tree with aerial roots, leathery leaves 4 inches long, and red or yellow fruits a third of an inch in diameter. Native to the East Indies.

68860. *MEIBOMIA GYROIDES* (DC.) Kuntze (*Desmodium gyroides* DC.). Fabaceae.

A shrubby leguminous plant, 8 to 10 feet high, from the warmer parts of the central and eastern Himalayas. It has hairy leaves and terminal clusters of red flowers.

For previous introduction see No. 64177.

68861. *MEIBOMIA TRIQUETRA* (L.) Kuntze (*Desmodium triquetrum* DC.). Fabaceae.

A handsome shrub with triangular branches, stiff leathery leaflets, and long axillary and terminal racemes of red flowers. It is found in most places in eastern and southern India and also in China and the Philippines.

For previous introduction see No. 47727.

68862. *PITHECOLOBIUM JUNGHUHNIANUM* Benth. Mimosaceae.

A tropical leguminous tree, native to the mountainous regions of Java, with rather small bipinnate leaves and numerous globular umbels of small flowers.

68863. *TALINUM PATENS* (L.) Willd. Portulacaceae.

An erect perennial, 1 to 2 feet high, native to tropical America, with fleshy leaves and carmine flowers. The leaves are boiled and eaten like spinach.

68864. *TALINUM TRIANGULARE* (Jacq.) Willd. Portulacaceae.

An erect branching herbaceous plant, about 3 feet high, native to the West Indies and recently introduced from Java into the Philippine Islands. The flowers are pink and produced in great profusion. In the Philippines the fleshy tender leaves are boiled like spinach and served with meat, for which purpose they are excellent.

For previous introduction see No. 59292.

68865. *TERMINALIA ARBOREA* (Teysm.) Koord. and Val. Combretaceae.

An East Indian tree about 100 feet high, with alternate entire leaves. The astringent fruits are used medicinally.

For previous introduction see No. 49564.

68866. *TERMINALIA BELLERICA* (Gaertn.) Roxb. Combretaceae.

The small round fruits of this handsome tropical Indian tree have been exported from India for tanning purposes under the name of myrobalans. The yellowish gray wood is used for general construction. The tree also has merit as a

68837 to 68866—Continued.

shade tree for avenues, with its huge buttressed trunk and long horizontal branches.

For previous introduction see No. 61505.

68867 to 68907.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received September, 1926.

68867. *APIUM GRAVEOLENS* L. Apiaceae.
Celery.

No. 550. *Fuk chow pak kan tsoi*. Seeds obtained from a seed store, Sanmiu, Honam, and said to have come from Fukchow, Fukien Province. This variety is planted here in August.

68868. *ARDISIA* sp. Myrsinaceae.

No. 521. Lungtau Mountain, northern Kwangtung. *Mo chung yeuk*. A low rosette plant having bright-green, sometimes reddish, leaves densely covered with long soft hairs, and clusters of bright berries which follow the small but pretty white flowers. This plant is found in moist shady situations and is good for rock gardens.

68869. *BETA VULGARIS* L. Chenopodiaceae.

No. 528. Canton. *Kwan taat tsoi*. A Chinese vegetable similar to Swiss chard. It is grown here during the winter months, and the large, white petioles, together with the leaves, are eaten.

68870 to 68883. *BRASSICA* spp. Brassicaceae.

68870. *BRASSICA* sp.

No. 530. Canton. *Paak fa kai laan*. A white-flowered native Chinese vegetable with a habit of growth much like wild mustard, but with much thicker, more succulent, glaucous leaves. It is grown during the winter months.

68871. *BRASSICA* sp.

No. 545. From a seed store in Sanmiu, Honam, originally from Lau-shek, near Fatshaan, Kwangtung. *Ma i paak tsoi* (horse ear). A variety planted in July; the leaves are edible in about 40 days, and the seeds ripen in about 120 days. The leaves and their broad white tender fleshy petioles make a delicious vegetable; any surplus is dried for later use.

68872. *BRASSICA* sp.

No. 546. *Kong moon ai keuk paak tsoi*. A variety with shorter, broader leaf petioles, originally from Kong-moon, in the Sunui district, Kwangtung. It is planted from July to November; the leaves are edible in about 60 days, and the seeds ripen in about 120 days. The leaves and petioles are sometimes dried for off-season consumption.

68873. *BRASSICA* sp.

No. 547. From a seed store in Sanmiu, Honam, originally from Potting, Chihli Province. *Ai keuk wong nga paak, wong paau sam*. A variety which is planted in July, forming a rather loose, globular head in about 85 days. The seeds ripen in about 150 days. It is used as a winter

68867 to 68907—Continued.

vegetable and is very tender, delicious, and of a much milder, sweeter flavor than the common cabbage.

68874. *BRASSICA* sp.

From a seed store in Sanmiu, Honam, originally from Tientsin. *Ko keuk taai tsing nga paak*. A variety planted in July; the heads form in about 80 days, and the seeds ripen in about 120 days. The heads formed by this variety are longer than those of *wong paau sam*, No. 547 [No. 68873], and loose, requiring to be tied up in order to attain their highest perfection.

68875. *BRASSICA* sp.

No. 549. From a seed store in Sanmiu, Honam, and originally from Potting, Chihli Province. *Ai keuk paau sam tsing paau nga paak*. This variety, planted in July, forms subglobular heads in about 80 days. It is distinguished from No. 547, *wong paau sam* [No. 68873], by its greener color.

68876. *BRASSICA* sp.

No. 551. From a seed store in Sanmiu, Honam, originally from Chiu-chow, Kwangtung. *Chiu chow paau sam taai kai tsoi*. A variety planted in August here, which is commonly used to make a kind of salt kraut. The leaves are edible in about 80 days, and the seeds are said to ripen in about 120 days.

68877. *BRASSICA* sp.

No. 552. From a seed store in Sanmiu, Honam, originally from Chiu-chow, Kwangtung. *Taai haap chiu chow kaai tsoi*. A variety planted in August; the leaves are edible in about 80 days, and the seeds are said to ripen in about 120 days. It is largely used in making a salt kraut.

68878. *BRASSICA* sp.

No. 553. From a seed store in Sanmiu, Honam, originally from Fatshaan, Kwangtung. *Naam fung kai tsoi*. A variety planted throughout the year. The leaves are edible in about 40 days.

68879. *BRASSICA* sp.

No. 554. From a seed store in Sanmiu, Honam, originally from Datshaan, Kwangtung. *Paak fa kai jaan tsoi*. A white-flowered variety planted from July to September. The leaves are edible in about 60 days.

68880. *BRASSICA* sp.

No. 555. A locally grown variety obtained at a seed store in Sanmiu, Honam. *Tsing kwat tsoi sam*. It is planted in July, and the stems and leaves are edible in about 40 days.

68881. *BRASSICA* sp.

No. 556. Said to have come from Shanghai. *Sheung hoi paau sam ye tsoi*. This variety, which is cultivated locally, is planted in July, and the heads are said to form in about three months.

68882. *BRASSICA* sp.

No. 557. From a seed store in Sanmiu, Honam. *Kong naam taai tau tsoi*. A variety planted here in August; the roots and the leaves are

68867 to 68907—Continued.

edible in about 70 days, and the seeds are said to ripen in about 120 days. The whole plant is often preserved with salt and dried.

68883. *BRASSICA* sp.

No. 558. From a seed store in Sanmiu, Honam. *Kong naam sai miu ching tsoi*. A variety planted in August, with leaves and roots edible in about 70 days. The roots are largely used after having been pickled in salt, and often the whole plant is preserved in the same way.

68884. *CHLORANTHUS* sp. *Chloranthaceae*.

No. 522. *Chuk chit cha*. A wild shrub, promising as an ornamental, found in thickets in northern Kwangtung, at an altitude of about 300 meters. It has a pleasing, clean, green foliage and stems and produces fruits of a striking red color.

68885 and 68886. *CHRYSANTHEMUM CORONARIUM* L. *Asteraceae*. Crown daisy.

For previous introduction see No. 64352.

68885. No. 529. *Tong ho tsoi*. The pretty yellow flowers of this plant make it worthy of a place in the flower gardens, although the odor of the plant itself is not altogether pleasing to some. The young plants are cultivated by the Chinese as a vegetable, during the winter months, and are used only when young. They are a favorite ingredient in the native soups.

68886. No. 559. *Taai ip tong ho tsoi*. A large-leaved variety said to have come from Chiuchow, Kwangtung. It is planted here in September and October, and the whole plant is eaten when quite young. The common use is as an ingredient in soups.

68887. *CRAWFURDIA* sp. *Gentianeaceae*.

No. 520. A slender twining vine with persistent, ornamental purplish red fruits, collected in the wild near Yeunguk, Lungtau Mountain, northern Kwangtung.

68888 to 68890. *CUCUMIS MELO* L. *Cucurbitaceae*. Melon.

68888. No. 531. *Heung kwa*. A native cucurbitaceous fruit very similar in fragrance and flavor to our muskmelon. The rich-yellow, smooth-skinned fruits are oblong and rather small, rarely exceeding 12 or 15 centimeters in length. This variety would be a very good addition to our list of kitchen garden melons, as it could be grown on fences or light trellis with very little trouble.

68889. No. 532. *Mat tong ching*. A melon somewhat resembling the honeydew melon. It is cylindrical in shape, rarely exceeding 8 inches in length. The skin is covered with a dense, short pubescence while the melons are young, but later it becomes very smooth and turns pale green. The flesh has an excellent flavor and texture, is light colored, and has a crispness which is akin to mealiness.

68890. No. 562. *Cheung shan paak kwa*. A locally grown variety obtained at a seed store in Sanmiu,

68867 to 68907—Continued.

Honam. It is planted from May to July and is said to produce edible fruits in 80 days. It is a long, fleshy, white-skinned cucumberlike vegetable, usually eaten stewed with meat or pickled while the fruits are young.

68891. *DOLICHANDRONE CAUDA-FELINA* (Hance) Benth. and Hook. *Bignoniaceae*.

No. 519. *Maau mei shue*. A tree of fairly rapid growth on poor soil, which has a pleasing foliage, large yellow purple-throated flowers, and woolly cat-tail-like fruits (from which it takes its native name). Its one bad feature as an ornamental is the fact that the pods are persistent after the seeds have been shed, giving the tree a somewhat untidy appearance. The wood is of no special value, but the seeds are credited by the Chinese as having therapeutic value in the treatment of venereal diseases.

68892 and 68893. *LACTUCA SATIVA* L. *Cichoriaceae*. Lettuce.

68892. No. 539. *Poh lei shaang tsoi*. Obtained at a seed store in Sanmiu, Honam, and said to have originally come from Annam. This is said to be a very delicate and delicious variety. It is planted any time from July to November, sandy clay soil being preferred; the leaves are edible in about 50 days, and the seeds ripen in about 100 days.

68893. No. 540. *Yau maak shaang tsoi*. Obtained at a seed store in Sanmiu, Honam, originally from Chiuchow, Kwangtung. A variety planted in July; the leaves are edible in about two months, and the seeds are said to ripen in about 120 days. A central stem rapidly develops, and the leaves, which are quite long, slender, and rather coarse, are removed progressively from the lower portion of the stem as fast as they reach their full size. This variety is never eaten raw.

68894 to 68896. *LAGERSTROEMIA INDICA* L. *Lythraceae*. Grape myrtle.

68894. No. 523. *Tsz shik tsz mei fa*. An ornamental purple-flowered shrub cultivated on the campus of the Canton Christian College and probably introduced from India.

68895. No. 524. *Taam hung tsz mei fa*. An ornamental pink-flowered shrub, probably introduced originally from India, which has been cultivated on the campus of the Canton Christian College.

68896. No. 525. *Hung tsz mei fa*. An ornamental red-flowered shrub, probably introduced from India, which has been cultivated on the campus of the Canton Christian College.

68897. *PISUM SATIVUM* L. *Fabaceae*. Pea.

No. 561. *Hoh laan tau*. Obtained at a seed store in Sanmiu, Honam, and said to have come from Chiuchow, Kwangtung. A variety usually planted in August. The tender young tips of the vines are used as a vegetable here, as well as the seeds and pods when quite young, and are said to be very sweet and delicious. The Chinese name of this dish is *lung so tsoi* (dragon's-beard vegetable).

68867 to 68907—Continued.

68898 to 68902. *RAPHANUS SATIVUS* L.
Brassicaceae. Radish.

68898. No. 534. *Loh paak, Laap chuk tan loh paak* (candlestick). Obtained at a seed store in Sanmiu, Honam, originally from Taaifoo, near Fats-haan, Kwangtung. A variety planted in June. The roots are edible in about 50 days and are eaten raw, with raw fish, as a hot-weather dish. The seeds ripen in about 150 days and are said to be very short-lived; they are never kept until the second year.

68899. No. 535. *Cheung shan shui paak loh paak*. A variety originally from Chiuchow, Kwangtung, which is planted in June, sandy clay soil being preferred. The roots are edible in about 50 days, and the seeds ripen in about four months. A large portion of the crop is salted and dried for off-season use.

68900. No. 536. *Chi fa taai loh paak*. Obtained at a seed store in Sanmiu, Honam, originally from Chiuchow, Kwangtung. A late-flowering variety planted in September, sandy clay soil being preferred. The roots are edible in about 60 days, and the seeds ripen in about 120 days. The crop is largely salted and dried to make a product known locally as *haam loh paak kon*.

68901. No. 537. *Tung kwa paak loh paak*. Obtained at a seed store in Sanmiu, Honam, originally from Chiuchow, Kwangtung. A variety planted in September, sandy clay soil being preferred; the roots are edible in about 60 days, and the seeds ripen in about 120 days. The surplus crop is salted and dried for future consumption.

68902. No. 538. *Pa chi loh paak* (har-row tooth). A long slender variety obtained at a seed store in Sanmiu, Honam, originally from Taaichaak, Sanui district. It is planted in July, and the roots are edible in about 40 days. The seeds ripen in about 120 days. Sandy clay soil is preferred for this variety.

68903. *RUBUS PARVIFOLIUS* L. Rosaceae.
Raspberry.

No. 527. *She paau lak, nga ying lak*. A low, rambling raspberry which occurs commonly on the uncultivated clay hills about Canton. Its inconspicuous lavender flowers are followed by small, yellowish red juicy fruits of good flavor, made up of few drupelets and sometimes nearly inclosed in the large calyx. The plants seem sturdy and free from disease and may prove of interest to breeders of small fruits.

For previous introduction see No. 52948.

68904. *RUBUS ROSAEFOLIUS* J. E. Smith.
Rosaceae. Raspberry.

No. 526. *She paau lak*. Seeds of plants growing on the Canton Christian College campus, which were brought from the vicinity of Kwongning during the spring of 1925. A low-growing raspberry which spreads by means of rhizomes and seems to thrive and bear best in moist sandy soil. The bright-red spherical fruits of fair flavor but rather seedy are made up of numerous small drupelets.

68867 to 68907—Continued.

The plants seem especially free from disease, and may be of interest to breeders of small fruit.

For previous introduction see No. 65267.

68905 and 68906. *SPINACIA OLERACEA* L.
Chenopodiaceae. Spinach.

68905. No. 543. *Chi fa haak in poh tsoi*. Originally from Fatshaan, Kwangtung. A late-flowering variety with dark-green leaves; it is planted in August. The leaves and stems are edible in about 60 days, and the seeds ripen in about 120 days.

68906. No. 544. *Tso fa poh tsoi*. An early flowering variety originally from Chiuchow, Kwangtung, obtained in Sanmiu, Honam. It is planted during August and September; the leaves and stems are edible in about 50 days, and the seeds ripen in about 120 days.

68907. *VIGNA SESQUIPEDALIS* (L.) Frut-wirth. Fabaceae. Yard Long bean.

No. 560. *Kam shaan tau kok*. A variety of the Chinese long bean, planted in June and July.

68908 and 68909. *GOSSYPIUM NEGLECTUM* Todaro. Malvaceae. Cotton.

From Rangoon, Burma. Seeds presented through Richard R. Willey, United States vice consul in charge. Received September 18, 1926. Notes by Mr. Willey.

68908. Variety *roseum arvensis*. A white-flowered strain of *wagale* cotton which gives a high ginning percentage and yield. It grows on the upland gravelly soils of the dry zone area of Burma.

68909. Variety *Burmanica*. An improved strain of ordinary cotton, with white flowers, producing from 600 to 700 pounds of seed cotton per acre and having a ginning percentage of 36 to 38. It is an important staple crop of the dry districts of Burma and is cultivated on a variety of soils, the typical soil being a loamy alluvial one.

68910 and 68911. *HORDEUM VULGARE COELESTE* L. Poaceae.

Six-rowed barley.

From Mongolia. Seeds obtained by Dr. Carl I. Krebs, Danish agricultural expedition to Mongolia. Received September 30, 1926.

Mongolian strains of barley.

68910. No. 1. 68911. No. 2.

68912. *TELOPEA SPECIOSISSIMA* (J. E. Smith) R. Br. Proteaceae.

Waratah.

From Sydney, New South Wales, Australia. Seeds presented by Dr. G. P. Darnell-Smith, Government botanist. Received September 30, 1926.

A very striking, evergreen Australian shrub, about 8 feet high, with irregular toothed, dark-green leaves 6 inches long and deep crimson, tubular flowers about an inch long, borne in a dense, globular head surrounded by blood-red bracts 2 or 3 inches in length. The waratah, as this

shrub is known in its native land, has come to be recognized as the State flower of New South Wales.

For previous introduction see No. 58513.

68913 to 68948. ORYZA SATIVA L. Poaceae. Rice.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received September, 1926.

Numbers 68913 to 68944 are from a collection of starchy, second-crop varieties which have been grown at the Canton Christian College for the last few years.

68913. No. 483. Tsinguen. *Tsing uen yeung chim kuk*. Growing season 90 days; yield about 1,770 pounds per acre.

68914. No. 484. A glutinous variety from Kukkong district. *Kuk kong fa noh kuk*. Growing season 90 days; yield about 2,400 pounds per acre.

68915. No. 485. *King chow hung mai chim kuk*. A red-kerneled variety from Kingchow, island of Hainan. Growing season 111 days; yield about 2,100 pounds per acre.

68916. No. 486. *Paak hok kei kuk*. Growing season 105 days; yield about 2,500 pounds per acre.

68917. No. 487. *Hop po paak fa chim kuk*. Originally from Hoppo district. Growing season 106 days; yield about 2,000 pounds per acre.

68918. No. 488. *Oon chung kuk*. A late variety. Growing season 97 days; yield about 2,075 pounds per acre.

68919. No. 489. *Tsang sheng lau fa chim kuk*. Originally from the Tsangsheng district. Growing season 90 days; yield about 1,970 pounds per acre.

68920. No. 490. *Taai koon wong shong kuk*. Growing season 100 days; yield about 2,900 pounds per acre.

68921. No. 491. *Tung koon yau chim kuk*. Growing season 101 days; yield about 2,300 pounds per acre.

68922. No. 492. *Dau fa chim*. Growing season 102 days; average yield about 2,900 pounds per acre.

68923. No. 493. *Chau hei kuk*. Growing season 104 days; yield about 1,900 pounds per acre.

68924. No. 494. *Kuk kaai kuk*. Growing season 102 days; yield about 2,100 pounds per acre.

68925. No. 495. *Hop po wong chim kuk*. Originally from the Hoppo district. Growing season 97 days; yield about 1,900 pounds per acre.

68926. No. 496. *Ma kui yau chim kuk*. Growing season 88 days; yield about 1,480 pounds per acre.

68927. No. 497. *Lin uen yau chim kuk*. Originally from Linuen district. Growing season 91 days; yield about 1,900 pounds per acre.

68928. No. 498. *Tsai mei kuk*. Growing season 96 days; yield about 1,230 pounds per acre.

68913 to 68948—Continued.

68929. No. 499. *Ngau mei tao kuk*. Growing season 104 days; yield about 2,530 pounds per acre.

68930. No. 500. *Wan fau taai paak kuk*. Originally from the Wanfau district. Growing season 96 days; yield about 2,350 pounds per acre.

68931. No. 501. *Cheung po sz miu kuk*. Originally from the Wanfau district. Growing season 94 days; yield about 2,700 pounds per acre.

68932. No. 502. *Tit chui kuk*. Growing season 100 days; yield about 2,275 pounds per acre.

68933. No. 503. *Heung chim kuk*. Growing season 105 days; yield about 1,570 pounds per acre.

68934. No. 504. *Wat naam chim kuk*. Originally from Watnaam district. Growing season 97 days; yield about 2,085 pounds per acre.

68935. No. 505. *Yeung chung saam pei kuk*. Originally from the Yeungchun district. Growing season 106 days; yield about 2,380 pounds per acre.

68936. No. 506. *Kik sz kai kuk*. Growing season 96 days; yield about 2,025 pounds per acre.

68937. No. 507. *Oo hok kuk*. Growing season 98 days; yield about 2,200 pounds per acre.

68938. No. 508. *Noh chaap kuk*. A glutinous variety with a growing season of 105 days; yield about 2,500 pounds per acre.

68939. No. 509. *Aai keuk taei paak kok kuk*. Growing season 104 days; yield about 2,590 pounds per acre.

68940. No. 510. *Yeung chun chuk chim kuk*. Originally from the Yeungchun district. Growing season 100 days; yield about 2,900 pounds per acre.

68941. No. 511. *Tung koon yau chim kuk*. Originally from the Tungmoon district. Growing season 97 days; yield about 1,600 pounds per acre.

68942. No. 512. *Ja wa kuk*. No. 1. An awned variety originally from Java.

68943. No. 513. *Ja wa kuk*. No. 2. An awned variety originally from Java.

68944. No. 514. *Taai noh kuk*. A glutinous variety originally from Kamngauhaang. Growing season 105 days; yield about 1,180 pounds per acre.

68945. No. 515. *Paak chim kuk*. From Kamngauhaang.

68946. No. 516. *Hung mai sha chim kuk*. A red-kerneled variety from Taaifohte.

68947. No. 517. *Chim tsai noh kuk, fa hok noh kuk*. A glutinous variety from Taaifohte.

68948. No. 518. *Paak chim luk tau tsai kuk*. From Taaifohte.

68949 to 68951. PRUNUS spp. Amygdalaceae.

From Jamaica Plain, Mass. Scions presented by E. H. Wilson, Arnold Arboretum. Received July 19, 1926.

68949 to 68951—Continued.

68949. *PRUNUS MEYERI* Rehder.

In 1906 Frank N. Meyer, while carrying on agricultural explorations in northern Chosen, collected seeds of a small wild cherry, which, according to his note (see No. 20084) was of handsome appearance and suited for growing in parks. At the Arnold Arboretum, a tree grown from one of these seeds was described as new by Alfred Rehder (Journal of the Arnold Arboretum, vol. 2, No. 2, p. 123) and named for Mr. Meyer. Doctor Rehder states that this appears to be a hybrid between *Prunus maackii* and *P. maximowiczii*, since it has characters intermediate between those of the above species. The tree is about 20 feet high, of vigorous growth, with a dense pyramidal habit, and pleasing bright-green foliage. The small white flowers are in dense racemes.

68950. *PRUNUS SERRULATA PUBESCENS* Wilson.
Kasumi cherry.

As described by Wilson (Cherries of Japan, p. 31), this variety develops into a tree up to 55 feet in height, with a trunk sometimes 7 feet in circumference, and leaves with pale-green lower surfaces. The white or pink single flowers are usually about four-fifths of an inch in diameter. This variety has the widest distribution of any of the Japanese cherries and flowers about two weeks later than *Prunus serrulata spontanea*, from which variety it differs in the slight hairiness of the leaves.

For previous introduction see No. 55715.

68951. *PRUNUS SERRULATA SACHALINENSIS* (Schmidt) Makino (*P. sargentii* Rehder).
Sargent's cherry.

This variety is very similar to *Prunus serrulata pubescens*, according to E. H. Wilson (Cherries of Japan, p. 35), except that the leaves are not hairy, and the flowers, which are pink or rose colored, rarely white, are usually a little more than an inch in diameter. It is probably the handsomest of all the wild cherries of

68949 to 68951—Continued.

eastern Asia, and is the parent of several of the finest double-flowered Japanese cherries.

For previous introduction see No. 55716.

68952. *CASTANOPSIS* sp. Fagaceae.
Evergreen chinquapin.

From China. Seeds obtained by F. A. McClure, agricultural explorer, Bureau of Plant Industry. Received January 25, 1926. Numbered July, 1926.

No. 268. Kamngauhaang. November 26, 1925. *Chui tsai, yui tsai*. A tree 6 to 8 meters high, with small entire lanceolate acuminate shiny leaves and small oblong-globular nuts which are solitary in the burs. The tree is very healthy and free from pests, though the nuts are occasionally wormy.

68953. *JUGLANS* sp. Juglandaceae.
Walnut.

From Santiago, Chile. Plants collected by Wilson Popenoe, United Fruit Co., Tela, Honduras. Received November 4, 1921. Numbered September, 1926.

No. 650. A South American walnut which closely resembles *Juglans nigra* in general appearance. It inhabits the highlands of Ecuador at altitudes of 6,000 to 10,000 feet. The edible nuts, 1½ inches in diameter, are thick shelled, and the wood is fine grained and handsome.

68954 and 68955. *SATYRIUM CARNEUM* (Ait.) R. Br. Orchidaceae.

From Cape Town, South Africa. Tubers purchased from W. S. Duke & Co. Received March 11, 1926. Numbered July, 1926.

A terrestrial herbaceous South African orchid with stout stems, a pair of fleshy radical oval-rounded leaves, and large pink flowers borne on scapes up to 2 feet in height.

68954. A.

68955. B.

INDEX OF COMMON AND SCIENTIFIC NAMES

- Acacia catechu*, 68325.
decurrens, 67946.
discolor, 67947.
horrida, 68137.
pennata, 68326.
retinodes, 68836.
villosa, 67837.
Acer barbinerve, 68404.
campbellii, 68327.
hookeri, 68328.
mandshuricum, 68405.
oblongum, 68329.
Actaea spicata, 68406.
Agave funkiana, 68294.
Agropyron cristatum, 68054, 68055.
tenerum, 68056.
Albizia falcata, 67965, 68837, 68838.
moluccana. See *A. falcata*.
rotundata, 68839.
saponaria, 68840.
Alder. See *Alnus nepalensis*.
Aleurites montana, 68361.
Alfalfa. See *Medicago sativa*.
Allamanda schottii, 68016.
Allium cepa, 68017.
schoenoprasum, 68057.
Almond, Russian. See *Amygdalus nana*.
Alnus nepalensis, 68330.
Alpinia hookeriana, 68105.
Altingia excelsa, 67897.
Alysicarpus vaginalis nummularifolius, 67838.
Amaranth. See *Amaranthus caudatus*.
Amaranthus caudatus, 68058.
Amygdalus georgica, 67905.
nana, 67906.
persica, 68352-68354.
persica nectarina, 68178.
Andromeda ovalifolia. See *Xollisma ovalifolia*.
Androsace maxima, 68141.
Anethum graveolens, 68059.
Angiopteris javanica, 68106.
Anise. See *Pimpinella anisum*.
Anthyllis tetraphylla, 68142.
Apium graveolens, 68867.
Apricot. See *Prunus armeniaca*.
Siberian. See *P. siberica*.
Aquilegia oxysepala, 68407.
Arachis hypogaea, 68829.
nambyquarae, 68830, 68831.
Ardisia sp., 68868.
Areca alicae, 68107.
triandra, 68108.
Arenga microcarpa, 68109.
Artocarpus champeden, 68018.
elastica, 68357.
polyphema. See *A. champeden*.
Ash. See *Fraxinus floribunda*.
Asplenium squamulatum, 68110.
Avena sativa, 68060-68063, 68130-68136.
Bamboo. See *Bambusa muriaki*.
Bambusa muriaki, 68349.
Baneberry, black. See *Actaea spicata*.
Barley. See *Hordeum* spp.
Baryxylum inerme, 68841.
Bauhinia monandra, 68842.
tomentosa, 68843.
violacea, 68844.
Bauhinia, butterfly. See *Bauhinia monandra*.
Bean, Berton. See *Phaseolus caracalla*.
common. See *P. vulgaris*.
jack. See *Canavalia ensiformis*.
Lima. See *Phaseolus lunatus*.
Lyon. See *Stizolobium niveum*.
Mauritius. See *S. aterrimum*.
velvet, Florida. See *S. deeringianum*.
Yard Long. See *Vigna sesquipedalis*.
Bergamot. See *Citrus bergamia*.
Beta vulgaris, 68869.
Betula ermani, 67894.
Birch. See *Betula ermani*.
Blueberry. See *Vaccinium dunalianum*.
Bradburya plumieri, 68019.
pubescens, 67839.
Brassica spp., 68870-68883.
elongata, 67907.
oleracea capitata, 68064, 68065.
Bromus erectus, 68066.
inermis, 68171.
Brownea grandiceps, 67982.
macrophylla, 68356.
Butcher's-broom. See *Ruscus aculeatus*.
Buttercup. See *Ranunculus falcatus*.
Butterflypea. See *Bradburya* spp.
Cabbage. See *Brassica oleracea capitata*.
Calamagrostis sp., 68408.
Calopogonium mucunoides, 68845.
Canavalia ensiformis, 68832.
Canna sp., 68126.
Capparis olacifolia, 68331.
Carob. See *Ceratonia siliqua*.
Carrot. See *Daucus carota*.
Caryota mitis, 68111.
rumphiana, 67898.
sobolifera, 68112.
Cassia sp., 68848.
absus, 67899.
bacillaris, 68020.
glauca. See *C. surattensis*.
laevigata, 68127.
marginata, 68846.
surattensis, 68847.
Castanopsis sp., 68952.
Castilla spp., 67970, 67973.
Casuarina sumatrana, 68021.
Celery. See *Apium graveolens*.
Centrosema plumieri. See *Bradburya plumieri*.
pubescens. See *B. pubescens*.
Ceratonia siliqua, 68151.
Chaetochloa italica, 68415.
Chalcas koenigii, 68351.
Cherry, European bird. See *Prunus padus*.
kasumi. See *Prunus serrulata pubescens*.
Manchu. See *P. tomentosa*.
Sargent's. See *P. serrulata sachalinensis*.
Yoshino. See *P. yedoensis*.
Chinquapin, evergreen. See *Castanopsis* sp.
Chives. See *Allium schoenoprasum*.
Chloranthus sp., 68884.
Chrysalidocarpus madagascariensis, 68113.
Chrysanthemum coronarium, 68885, 68886.
Citrus sp., 68023.
aurantium, 67884, 67885.
bergamia, 67886.
decumana. See *C. grandis*.
grandis, 67980, 67986-67988, 68022.
limonia, 67887.
Olemais gouriana, 68332.
montana, 68333.
Clover. See *Trifolium arvense*.
Persian. See *T. resupinatum*.
red. See *T. pratense*.
Cocaine tree. See *Erythroxylon coca*.
Colubrina oppositifolia, 68154.
Columbine. See *Aquilegia oxysepala*.
Coral tree. See *Erythrina* spp.
Coriander. See *Coriandrum sativum*.
Coriandrum sativum, 68067.
Cornus alba, 68409.
Corynocarpus laevigata, 67890.
Corypha gebanga, 68114.
Cotton. See *Gossypium* spp.
Couroupita guianensis, 67994.

- Cousinia* sp., 67851.
Cracca candida, 67840.
 noctiflora, 67841.
 villosa purpurea, 67966.
Crataegus sanguinea, 68414.
Crawfurdia sp., 68887.
Cress, garden. See *Lepidium sativum*.
Crotalaria alata, 67842.
 grantiana, 68849.
 usaramoensis, 67843, 68850.
 valetonii, 68851.
 verrucosa, 68852.
Crown daisy. See *Chrysanthemum coronarium*.
Cucumber. See *Cucumis sativus*.
Cucumis melo, 68888-68890.
 sativus, 68068-68071.
Currant, red. See *Ribes diacantha*.
Cussonia umbellifera, 68138.
Cyrtostachys lakka, 68115.
 renda, 68116.
Dactylis glomerata, 68072.
Daucus carota, 68073, 68410.
Davidia involucrata, 68324.
Desmodium gyroides. See *Meibomia gyroides*.
 triquetrum. See *M. triquetra*.
Detarium senegalense, 68853.
Dewberry. See *Rubus saxatilis*.
Dialium laurinum, 68024.
 maingayi, 68025.
Dicellostyles axillaris, 68358.
Dill. See *Anethum graveolens*.
Dogwood, Tartarian. See *Cornus alba*.
Dolichandrone cauda-felina, 68891.
Dolichos lablab, 68295.
Donax cannaeformis, 68854.
Dove tree. See *Davidia involucrata*.
Echinochloa stagnina, 67997.
Elichrysium stoechas, 68143.
Elm. See *Ulmus elliptica*.
 Chinese. See *U. pumila*.
Eragrostis sp., 68139.
Erythrina arborescens, 68334.
 indica. See *E. variegata*.
 lithosperma. See *E. variegata orientalis*.
 variegata, 68335.
 variegata orientalis, 67967, 68855.
Erythroxylon coca, 67943.
Eugenia aquea, 68026.
Euterpe acuminata, 67900.
Fenugreek. See *Trigonella foenum-graecum*.
Fern. See *Angiopteris javanica*, *Asplenium squamulatum*, *Marattia sambucina*.
Fescue, meadow. See *Festuca elatior*.
Festuca elatior, 68074, 68172.
Ficus ampelosa, 68856.
 hirta, 68858.
 hookeri, 68336.
 korthalsii, 68857.
 retusa, 68859.
Fig. See *Ficus hookeri*.
Fragaria spp., 68826-68828.
Fraxinus floribunda, 68337.
Galanthus caucasicus, 67908.
Garcinia sp., 67985.
 bancana, 67971, 68027.
 benthami, 68179.
 cornea, 67983.
 dulcis, 68028.
 forbesii, 68029.
 griffithii, 68030.
 mangostana, 67984, 68031-68033.
 nigro-lineata, 68034.
Ginger. See *Zinziber officinale*.
Glaziosa treubiana, 67901.
Gloriosa abyssinica, 67902.
Glory lily. See *Gloriosa abyssinica*.
Glycine hispida. See *Sofa max*.
Gossypium sp., 67945.
 anomalum, 67974.
 arborescens, 67975.
 neglectum, 68908, 68909.
 obtusifolium, 67976.
Granadilla, yellow. See *Passiflora laurifolia*.
Grape. See *Vitis vinifera*.
Grapefruit. See *Citrus grandis*.
Grape hyacinth. See *Muscari* spp.
Grass, brome. See *Bromus inermis*.
 brome, meadow. See *B. erectus*.
 canary. See *Phalaris canariensis*.
 canary, reed. See *P. arundinacea*.
 fescue, meadow. See *Festuca elatior*.
 orchard. See *Dactylis glomerata*.
 wheat. See *Agropyron cristatum*.
 wheat, slender. See *A. tenerum*.
 See also *Calamagrostis* sp., *Echinochloa stagnina*, *Panicum repens*, *Paspalum notatum*.
Guava. See *Psidium* sp.
Guernsey lily. See *Nerine sarniensis*.
Gustavia sp., 68035.
Hakea laurina, 67948.
Hakea, sea-urchin. See *Hakea laurina*.
Hedychium sp., 67928.
Hedysarum hedysaroides, 67895.
 obscurum. See *H. hedysaroides*.
Helianthus annuus, 68075.
Hibiscus pungens, 68338.
Hicksbeachia pinnatifolia, 67881.
Hoheria populnea, 67891, 67892.
Honeysuckle. See *Lonicera* spp.
Hop. See *Humulus lupulus*.
Hordeum distichon palmella, 68180.
 vulgare coeleste, 68910, 68911.
 vulgare nigrum, 68006, 68181-68200.
 vulgare pallidum, 68007, 68201-68229.
Humulus lupulus, 68144.
Hyacinth bean. See *Dolichos lablab*.
Hymenocallis amancaes, 67993.
Indigofera anil. See *I. suffruticosa*.
 arrecta. See *I. confusa*.
 confusa, 67968.
 endecaphylla, 67844.
 suffruticosa, 67845.
Iris acutiloba, 67909, 67910, 68158.
 aphylla, 68161.
 carthaliniae, 67911, 68159.
 caucasica, 67912.
 foetidissima, 68145.
 fominii, 67913, 68160.
 grossheimii, 67914, 68162.
 iberica, 67915, 68163.
 lycotis, 67916, 68164.
 musulmanica, 67917, 68165.
 paradoxa, 67918, 68166.
 reticulata, 67919, 68167.
 schelkownikowi, 67920, 68168.
 talyschi, 67921.
 taschia, 68169.
Iris, Gladwin. See *Iris foetidissima*.
Iberian. See *I. iberica*.
netted. See *I. reticulata*.
stool. See *I. aphylla*.
velvet. See *I. paradoxa*.
Ixora javanica, 68117.
Juglans sp., 68953.
Juniper. See *Juniperus cedrus*.
Juniperus cedrus, 68299.
Karaka. See *Corynocarpus laevigata*.
Klugia notoniana, 67934.
Kokia rockii, 68155.
Kokio. See *Kokia rockii*.
Lactuca sativa, 68892, 68893.
Lagerstroemia indica, 68894-68896.
Latania commersonii, 68118.
 loddigesii, 68119.
 verschaffeltii, 68120.
Lemon. See *Citrus limonia*.
Lens esculenta, 68076, 68077, 68173.
Lentil. See *Lens esculenta*.
Lepidium sativum, 68078.
Lettuce. See *Lactuca sativa*.
Licuala amplifrons, 68121.
Lilium chalcidonicum, 67969.
 martagon, 67929.
 martagon × *hansonii*, 67931.
 monadelphum, 67930.
 pyrenaicum, 67942.

- Lily. See *Lilium* spp.
 Chalcedonian. See *L. chalconicum*.
 great Caucasian. See *L. monadelphum*.
 martagon. See *L. martagon*.
Litchi chinensis, 67991.
Lonicera caerulea edulis, 67896, 68817, 68818.
Lotus corniculatus, 68079.
Luculia gratissima, 68339.
 Lychee. See *Litchi chinensis*.
Macadamia prealta, 67882.
ternifolia, 67883.
 Mangosteen. See *Garcinia mangostana*.
 Maple. See *Acer* spp.
Marattia sambucina, 68122.
Medicago sativa, 68080.
Meibomia gyroides, 68860.
rensoni, 67888.
triquetra, 68861.
Melilotus alba, 67852.
officinalis, 67853.
taurica, 67854.
 Melon. See *Cucumis melo*.
Mezoneurum kauaiense, 68156.
 Millet. See *Chaetochloa italica*.
Mimosa invisa, 68036.
rubicaulis, 68340.
Mimusops kauki, 67978.
 Miro. See *Nageia ferruginea*.
Monodora tenuifolia, 67935.
Muntingia calabura, 67936.
 Mu-oil tree. See *Aleurites montana*.
Murraya koenigii. See *Chalcas koenigii*.
Muscari caucasicum, 67922.
longipes, 67923.
neglectum, 67924.
Myoporum sandwicense, 68157.
 Myrtle, crape. See *Lagerstroemia indica*.
Nageia ferruginea, 67893.
 Nectarine. See *Amygdalus persica nectarina*.
Nephelium litchi. See *Litchi chinensis*.
Nerine sarniensis, 67972.
Normanbya muelleri, 68123.
 Oak. See *Quercus* spp.
 Oats. See *Avena sativa*.
Olea maritima, 68037.
 Onion. See *Allium cepa*.
 Orange, sour. See *Citrus aurantium*.
Oryza latifolia, 67998.
sativa, 68362-68402, 68416, 68913-68948.
 Palm. See *Areca* spp., *Arenga microcarpa*, *Caryota* spp., *Corypha geranga*, *Cyrtostachys* spp., *Euterpe acuminata*, *Glauciova treubiana*, *Latania* spp., *Licuala amplifrons*, *Normanbya muelleri*, *Pigafettia elata*.
 date. See *Phoenix dactylifera*.
Panicum miliaceum, 68081, 68417.
repens, 67999.
Papaver somniferum, 68082-68085.
Parkia roxburghii. See *P. timoriana*.
timoriana, 67995.
Paspalum notatum, 67979.
Passiflora laurifolia, 68038.
Pavetta zimmermanniana, 67977.
 Pea. See *Pisum* spp.
 Peach. See *Amygdalus persica*.
 Peanut. See *Arachis* spp.
Peltophorum ferrugineum. See *Baryxylum inerme*.
Pentzia incana, 67880.
virgata. See *P. incana*.
Phalaris arundinacea, 68146.
canariensis, 68086.
Phaseolus caracalla, 68129.
lunatus, 68128.
scaberulus, 68296.
vulgaris, 68087, 68088, 68174, 68175.
Phoenix dactylifera, 68350.
Pigafettia elata, 67903.
Pimpinella anisum, 68089.
 Pine, Canary. See *Pinus canariensis*.
Pinus canariensis, 68300.
Pisum elatius, 67925.
sativum, 68090-68092, 68418, 68897.
Pithecolobium junghuhnianum, 68862.
subcoriaceum, 67937.
Podocarpus ferruginea. See *Nageia ferruginea*.
Polycarpaea nivea, 68152.
 Poplar. See *Populus* spp.
 Poppy. See *Papaver somniferum*.
Populus sp., 67981.
maximowiczii, 68170.
 Potato. See *Solanum tuberosum*.
 Proso. See *Panicum miliaceum*.
Prunus armeniaca, 68355, 68819.
meyeri, 68949.
nana. See *Amygdalus nana*.
nana georgica. See *A. georgica*.
padus, 68820.
persica. See *Amygdalus persica*.
sargentii. See *P. serrulata sachalinensis*.
serrulata, 67950-67954, 67956-67959, 67961, 67962.
serrulata pubescens, 68950.
serrulata sachalinensis, 67955, 68951.
serrulata spontanea, 67963.
sibirica, 68819.
subhirtella autumnalis, 67960.
tomentosa, 68411.
yedoensis, 67964.
Psidium sp., 67949.
Quercus sp., 67850.
incana, 68342.
 Radish. See *Raphanus sativus*.
Ranunculus falcatus, 68147.
Raphanus sativus, 68093, 68898, 68902.
 Raspberry. See *Rubus* spp.
Rheum sp., 68412.
Rhododendron arboreum, 67938.
ciliatum, 68343.
grande, 68344.
maddeni, 68345.
Rhododendron, fringed. See *Rhododendron ciliatum*.
 Rhubarb. See *Rheum* sp.
Ribes diacantha, 68821.
 Rice. See *Oryza sativa*.
Rosa sp., 68822.
 Rose. See *Rosa* sp.
Rubus spp., 67941.
ellipticus, 67939.
fraxinifolius, 68359.
idaeus strigosus, 68823.
moluccanus, 67940.
parvifolius, 68903.
rosaefolius, 68346, 68904.
saxatilis, 68824.
 Rubber tree. See *Castilla* sp.
Ruscus aculeatus, 68148.
Saccharum officinarum, 67944, 68041-68053.
 St. Thomas tree. See *Bauhinia tomentosa*.
Salix livida cinerascens, 68413.
Satyrion carneum, 68954, 68955.
Scorpiurus subvillosa, 68149.
Sesbania grandiflora, 67932, 67933, 68015.
Setaria italica. See *Chaetochloa italica*.
Shuteria vestita, 68039.
Smilax sp., 68403.
 Snowdrop. See *Galanthus caucasicus*.
Soja max, 68000, 68008-68011, 68420-68816.
Solanum tuberosum, 67927.
Sophora tomentosa, 68297.
 Sorghum. See *Sorghum vulgare*.
Sorghum vulgare, 68001-68005.
 Soy bean. See *Soja max*.
 Spider lily. See *Hymenocallis amancaes*.
 Spiderwort. See *Tradescantia geniculata*.
 Spinach. See *Spinacia oleracea*.
Spinacia oleracea, 68094, 68905, 68906.
Sterculia lanceolata, 67996.
Stizolobium aterrimum, 68833.
deeringianum, 68834.
niveum, 68835.
velutinum, 67846.
 Strawberry. See *Fragaria* spp.
 Sugar cane. See *Saccharum officinarum*.
 Sunflower. See *Helianthus annuus*.
 Sweet clover. See *Melilotus officinalis* and *M. taurica*.
 white. See *M. alba*.

- Taimat.* See *Cousinia* sp.
Talinum patens, 68863.
 triangulare, 68864.
Telopea speciosissima, 68912.
Tephrosia candida. See *Cracca candida*.
 noctiflora. See *C. noctiflora*.
 purpurea. See *C. villosa purpurea*.
Teramnus labialis, 67889.
Terminalia arborea, 68865.
 bellerica, 68866.
Thymus zygis, 68153.
Tradescantia geniculata, 67904.
Tragopogon longirostris, 68150.
 Trefoil, bird's-foot. See *Lotus corniculatus*.
Trichosanthes globosa, 68124.
Trifolium arvense, 67855.
 pratense, 67856, 67989, 67990.
 resupinatum, 67857-67863.
Trigonella foenum-graecum, 68095.
Triticum aestivum, 67864-67879, 68012-
 68014, 68096-68102, 68176, 68230-
 68236, 68419.
 durum, 68103, 68104, 68237-68291.
 polonicum, 68292, 68293.
 vulgare. See *T. aestivum*.
Ulmus elliptica, 67926.
 pumila, 67992.
 Undetermined, 68298, 68360.
Vaccinium dunalianum, 68347.
 Vetch. See *Vicia ervilia*.
Viburnum stellulatum, 68348.
Vicia ervilia, 68177.
Vigna hosei, 68040.
 sesquipedalis, 68907.
 vevillata, 67847.
Viola tenuicornis, 68825.
 Violet. See *Viola tenuicornis*.
Vitis vinifera, 68301-68323.
 Walnut. See *Juglans* sp.
 Waratah. See *Telopea speciosissima*.
 Wheat, common. See *Triticum aestivum*.
 durum. See *T. durum*.
 Polish. See *T. polonicum*.
 Willow. See *Salix* sp.
Xolisma ovalifolia, 68341.
Zephyranthes citrina, 68125.
 Zephyr lily. See *Zephyranthes citrina*.
Zinziber officinale, 67849.
Ziziphus mucronata, 68140.
 xylopyrus, 67848.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

March 6, 1929

<i>Secretary of Agriculture</i> -----	ARTHUR M. HYDE.
<i>Assistant Secretary</i> -----	R. W. DUNLAP.
<i>Director of Scientific Work</i> -----	A. F. WOODS.
<i>Director of Regulatory Work</i> -----	WALTER G. CAMPBELL.
<i>Director of Extension</i> -----	C. W. WARBURTON.
<i>Director of Personnel and Business Admin- istration.</i> -----	W. W. STOCKBERGER.
<i>Director of Information</i> -----	M. S. EISENHOWER.
<i>Solicitor</i> -----	R. W. WILLIAMS.
<i>Weather Bureau</i> -----	CHARLES F. MARVIN, <i>Chief.</i>
<i>Bureau of Animal Industry</i> -----	JOHN R. MOHLER, <i>Chief.</i>
<i>Bureau of Dairy Industry</i> -----	O. E. REED, <i>Chief.</i>
<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief.</i>
<i>Forest Service</i> -----	R. Y. STUART, <i>Chief.</i>
<i>Bureau of Chemistry and Soils</i> -----	H. G. KNIGHT, <i>Chief.</i>
<i>Bureau of Entomology</i> -----	C. L. MARLATT, <i>Chief.</i>
<i>Bureau of Biological Survey</i> -----	PAUL G. REDINGTON, <i>Chief.</i>
<i>Bureau of Public Roads</i> -----	THOMAS H. MACDONALD, <i>Chief.</i>
<i>Bureau of Agricultural Economics</i> -----	NILS A. OLSEN, <i>Chief.</i>
<i>Bureau of Home Economics</i> -----	LOUISE STANLEY, <i>Chief.</i>
<i>Plant Quarantine and Control Administration.</i> -----	C. L. MARLATT, <i>Chief.</i>
<i>Grain Futures Administration</i> -----	J. W. T. DUVEL, <i>Chief.</i>
<i>Food, Drug, and Insecticide Administration</i> ---	WALTER G. CAMPBELL, <i>Director of Regulatory Work, in Charge.</i>
<i>Office of Experiment Stations</i> -----	E. W. ALLEN, <i>Chief.</i>
<i>Office of Cooperative Extension Work</i> -----	C. B. SMITH, <i>Chief.</i>
<i>Library</i> -----	CLARIBEL R. BARNETT, <i>Librarian.</i>

This inventory is a contribution from

<i>Bureau of Plant Industry</i> -----	WILLIAM A. TAYLOR, <i>Chief.</i>
<i>Office of Foreign Plant Introduction</i> -----	KNOWLES A. RYERSON, <i>Senior Horticulturist, in Charge.</i>

52

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
U. S. GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
10 CENTS PER COPY
▽

UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 96



Washington, D. C.

Issued February, 1930

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, JULY 1 TO SEPTEMBER 30, 1928 (NOS. 77261 TO 77595)

CONTENTS

	Page
Introductory statement-----	1
Inventory-----	3
Index of common and scientific names-----	19

INTRODUCTORY STATEMENT

The most outstanding plant material contained in this inventory, No. 96, covering the period from July 1 to September 30, 1928, is the collection of 51 sugarcane varieties (*Saccharum officinarum*, Nos. 77334 to 77384) procured by E. W. Brandes in New Guinea for use in his official investigations. Part of the interest in this shipment is due to the fact that Doctor Brandes is the first agricultural explorer to use an airplane for his collecting tour. Doctor Brandes not only collected sugarcanes in person but also obtained the cooperation of P. H. Goldfinch, Sydney, Australia, who sent in a collection of 44 varieties (Nos. 77496 to 77539). Another lot of five varieties (Nos. 77298 to 77302) was received from Argentina. •

As in the previous inventory, the bulk of the plant material received in this period comes from the Southern Hemisphere. Through the activities of Mrs. Frieda Cobb Blanchard two collections of Australian plants (Nos. 77273 to 77292 and Nos. 77441 to 77447), as well as a collection from New Zealand (Nos. 77540 to 77582), were received.

Through O. F. Cook there was received a collection of rubber-producing plants (Nos. 77387 to 77394) from Haiti. Five kinds of cover crops (Nos. 77293 to 77297) from Ceylon may be of value for the southern United States. Another interesting shipment consists of apricot varieties (*Prunus armeniaca*, Nos. 77466 to 77472) from Palestine. A bamboo native to Japan (*Sasa tessellata*, No. 77333) was received from France to be added to the growing bamboo collection at the Barbour Lathrop Plant Introduction Garden at Savannah, Ga.

The growing interest in flowering cherries warrants a note of the collections presented by the Arnold Arboretum (*Prunus* spp., Nos. 77261 to 77266 and Nos. 77404 to 77411). Along this same line is a shipment of six varieties (*Prunus* spp., Nos. 77313 to 77318) from Capt. Collingwood Ingram, of England.

Various plants have been obtained for study as ornamentals, some of them quite unknown as yet and others not commonly grown in this country. As compared to other inventories their number here is relatively small and none

call for special mention, save perhaps the several Lycoris species (Nos. 77586 to 77588) and the Nerines (Nos. 77590 to 77592), all of them species long known to cultivation but not sufficiently used even in parts of our country where they are known to be hardy.

The botanical determinations have been made and the nomenclature determined by H. C. Skeels, who has had general supervision of this inventory.

KNOWLES A. BYERSON,
Principal Horticulturist in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., August 14, 1929.

11
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

INVENTORY¹

77261 to 77267.

From Jamaica Plain, Mass. Scions presented by E. H. Wilson, Arnold Arboretum. Received August 8, 1928.

77261 to 77266. *PRUNUS* spp. Amygdalaceae.

77261. *PRUNUS INCISA* Thunb.
Mame cherry.

An ornamental Japanese shrub or small tree about 25 feet high. The flowers, which appear in drooping clusters before the deeply cut leaves, are white or rosy, with bright-red calyxes, and the anthers are bright yellow. The petals fall early, but the calyxes, which gradually grow brighter, remain on the young fruits for some time and are very showy.

For previous introduction see No. 74428.

77262. *PRUNUS MAACKII* Rupr.
Amur cherry.

A Manchurian bird cherry, 40 feet or more in height, with very smooth brownish yellow bark which peels off like that of a birch. The leaves are pointed and very finely toothed, and the white flowers are in short racemes borne on the previous season's wood.

For previous introduction see No. 64239.

77263 to 77265. *PRUNUS SERRULATA* Lindl.
Oriental cherry.

77263. Variety *Chosin-hizakura* [red cherry from Chosen]. Tree of spreading habit; young foliage reddish brown; flowers uniformly pink, up to 1½ inches in diameter, single or semidouble, in clusters of two to four, produced in great abundance.

For previous introduction see No. 47133.

77261 to 77267—Continued.

77264. Variety *Masuyama* [probably named for some Japanese person]. Tree spreading, up to 15 feet high; bark reddish brown; young foliage brownish green; buds deep pink, truncate; flowers up to 1½ inches in diameter, double, light pink shading deeper toward the margins and opening flat, similar to *Horinji* but a little less double and presenting a more clean-cut appearance. A very attractive variety.

77265. Variety *Miyako* [beauty or prosperity]. Tree of upright habit; bark dark brown; young foliage light brown; buds deep pink, truncate; flowers semidouble opening rather flat, up to 1½ inches in diameter, almost white in center, becoming pink toward the fimbriate petal tips and on back, in drooping clusters. A very attractive variety.

77266. *PRUNUS SUBHIRTILLA* Miquel.
Higan cherry.

Higanzakura [Higan signifies equinox in Japanese]. Tree very spreading, up to 40 feet high; bark gray, smooth. Flowers single, light pink, appearing before the leaves. This is perhaps superior to *Yoshino* for mass effect, because of the compact habit of growth and the great numbers of flowers produced.

77267. *SYRINGA PINNATIFOLIA* Hemsl.
Oleaceae. Pinnate lilac.

A western Chinese shrub up to 10 feet high, with pinnate leaves 2 to 4 inches long made up of 7 to 11 ovate to lanceolate leaflets. The lilac-tinged white flowers are in short panicles 2 to 3 inches long.

¹ It should be understood that the names of varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identification, therefore, must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

77268. GARCINIA BINUCAO (Blanco)
Choisy. Clusiaceae. Binukao.

From Manila, Philippine Islands. Seeds presented by José S. Camus, Acting Director of the Bureau of Agriculture. Received September 5, 1928.

A large tropical tree, native to the Philippines, up to 100 feet high, with clusters of small red flowers and globular yellow fruits 2 inches in diameter. It is a possible stock for the mangosteen.

For previous introduction see No. 63853.

77269. WASHINGTONIA SONORAE S. Wats.
Phoenicaceae. Palm.

From Soledad, Cienfuegos, Cuba. Seeds presented by R. M. Grey, Superintendent of the Biological Laboratory and Botanical Garden. Received August 14, 1928.

A palm up to 25 feet high, native to Sonora, Mexico, with fan-shaped leaves, about 3 feet broad, copiously divided into drooping fibers on the margin and the petioles armed with stout curved spines. The flower cluster is 5 to 8 feet long, and the small black fruits are said to be edible.

77270. ACER sp. Aceraceae. Maple.

From Japan. Seeds collected by R. K. Beattie, Bureau of Plant Industry. Received August 20, 1928.

No. 701. July 26, 1928. A very attractive maple growing on the trail between Hajikano and Tenmokuzan, in the mountains of the northeastern part of Yamana-shi Ken.

77271. ADANSONIA DIGITATA L. Bom-
bacaceae. Baobab.

From Dar es Salaam, Tanganyika Territory, Africa. Seeds presented by A. H. Kirby, Director, Department of Agriculture. Received August 20, 1928.

An African tree about 60 feet high and sometimes 30 feet in diameter, with palmate leaves divided into five to seven leaflets, large white flowers 6 inches across, and large gourdlike fruits with pulp which is edible.

For previous introduction see No. 76635.

77272. ROSA ODORATA GIGANTEA (Col-
lett) Rehd. and Wils. Rosaceae.
Giant tea rose.

From Melbourne, Australia. Seeds presented by Alister Clark, through Mrs. Frieda Cobb Blanchard, University of Michigan, Ann Arbor, Mich. Received August 10, 1928.

A strong climbing evergreen rose, native to Burma, with creamy white single flowers 4 to 6 inches across. It resembles somewhat the Cherokee rose, but is hardy only in the far South.

77273 to 77292.

From Sydney, Australia. Seeds presented by Mrs. Frieda Cobb Blanchard, University of Michigan, Ann Arbor, Mich. Received August 13, 1928.

77273 to 77275. ACACIA spp. Mimosaceae.

77273. ACACIA ACUMINATA Benth.

A tree 30 to 40 feet high, native to Western Australia, with falcate-linear phyllodes 3 to 10 inches long and small flower spikes an inch long. The wood, which has an odor re-

77273 to 77292—Continued.

sembling raspberry jam, is dark reddish brown, close-grained, and hard, and is suitable for ornamental woodwork and for fence posts.

For previous introduction see No. 48982.

77274. ACACIA MICROBOTRYA Benth.

A tall Western Australian shrub with falcate-lanceolate phyllodes 3 to 5 inches long and short racemes of small globular flower heads.

For previous introduction see No. 48053.

77275. ACACIA ROSSEI F. Muell.

A tall heathlike shrub, native to Western Australia, with short linear-falcate phyllodes and corymbs of small flower heads.

77276. BRUNONIA AUSTRALIS J. E. Smith.
Goodeniaceae.

A silky hairy tufted perennial, native to Australia, with a rosette of linear-obovate entire leaves 2 to 4 inches long and scapes 6 to 12 inches high bearing globular blue flower heads less than an inch in diameter.

77277. CALOTHAMNUS GILESII F. Muell.
Myrtaceae.

An Australian shrub with linear-terete leaves and loose clusters of reddish flowers.

For previous introduction see No. 67070.

77278. CASSIA EREMOPHILA A. Cunn.
Caesalpinaceae.

A handsome Australian shrub 5 feet high, with leaves made up of two pairs of narrow leaflets and yellow flowers. The leaves and pods are said to be eaten by stock.

For previous introduction see No. 52353.

77279. CYANOSTEGIA LANCEOLATA Turcz.
Verbenaceae.

An erect glutinous shrub, native to western Australia, with lanceolate leaves 1 to 2 inches long and loose terminal pyramidal panicles of purple flowers followed by small 1-seeded fruits covered with long branching hairs.

77280. DAMPIERA WELLSIANA F. Muell.
Goodeniaceae.

A tufted perennial, native to Western Australia, with thick glabrous radical leaves and erect wooly tomentose stems bearing bracted globular heads of small blue flowers.

77281 to 77283. EUCALYPTUS spp. Myrta-
ceae.

77281. EUCALYPTUS BURRACOPPINENSIS
Maiden and Blakely.

A Western Australian shrub or small tree 8 to 15 feet high, with thick light-green lanceolate leaves 4 to 6 inches long, small axillary clusters of rather large yellowish white flowers, and flattened top-shaped fruits.

77282. EUCALYPTUS ERYTHRONEMA
Turcz.

A small Australian tree with reddish bark, thick shining lanceolate leaves 3 inches long, and recurved umbels of red flowers.

77273 to 77292—Continued.

77283. *EUCALYPTUS MACROCARPA* Hook.

A stout Australian shrub or small tree up to 15 feet high with thick rigid cordate glaucous leaves 6 inches long and large solitary brilliant orange to crimson flowers.

For previous introduction see No. 48990.

77284. *GOODENIA CAERULEA* R. Br. Goodeniaceae.

A tufted herbaceous perennial, native to Western Australia, with several angled stems a foot high, rigid linear leaves, and axillary blue flowers nearly an inch long.

77285 to 77287. *ISOPOGON* spp. Proteaceae.77285. *ISOPOGON DIVERGENS* R. Br.

A bushy glabrous shrub 2 to 4 feet high, native to Western Australia, with leaves 2 to 5 inches long pinnately divided into rigid slender terete segments. The conspicuous purple flowers an inch long are borne in conelike clusters.

77286. *ISOPOGON SCABRIUSCULUS* Meissn.

A much-branched rigid Western Australian shrub with linear nearly terete leaves 3 to 6 inches long and small globular conelike clusters of flowers covered with dense white hairs.

77287. *ISOPOGON SPHAEROCEPHALUS* Lindl.

An erect shrub several feet high, native to Western Australia, with the branches sprinkled with long spreading hairs. The linear to lanceolate leaves are 2 to 4 inches long, and the flowers in the conelike clusters are densely covered with yellow hairs.

77288. *KENNEDIA COMPTONIANA* (Andrews) Link (*Hardenbergia comptoniana* Benth.). Fabaceae.

A twining herbaceous or subshrubby Australian vine with three to five cordate linear to ovate leaflets and long sprays of deep violet-blue flowers.

For previous introduction see No. 47191.

77289. *KENNEDIA PROSTRATA* R. Br. Fabaceae.

A prostrate pubescent Australian vine with leaves composed of three cordate broadly obovate leaflets an inch long and axillary peduncles bearing two to four scarlet flowers.

For previous introduction see No. 56576.

77290. *PIMELEA SYLVESTRIS* R. Br. Thymelaeaceae.

A Western Australian shrub, 2 to 3 feet high, with opposite concave-lanceolate leaves less than an inch long and small yellowish or pinkish flower heads surrounded by four to six broad persistent bracts.

77291. *PITYRODIA RACEMOSA* (Turcz.) Benth. Verbenaceae.

An erect shrub about 2 feet high, native to Western Australia, densely covered with loose floccose white wool. The thick soft oblong clasping leaves are opposite and nearly an inch long, and the blue sagelike flowers are in racemose clusters.

77273 to 77292—Continued.

77292. *STACHYSTEMON VERMICULARIS* Planch. Euphorbiaceae.

An erect glabrous shrub, native to Western Australia, with wiry stems a foot high, linear leaves less than an inch long, and inconspicuous flowers clustered at the ends of the branches.

77293 to 77297.

From Peradeniya, Ceylon. Seeds purchased from the manager of the publication depot and central seed store of the Department of Agriculture. Received August 14, 1928.

77293. *BRADBURYA PUBESCENS* (Benth.) Kuntze (*Centrosema pubescens* Benth.).

A tropical American leguminous vine with trifoliate leaves and small yellowish flowers, which is used as a cover crop.

For previous introduction see No. 76771.

77294. *CALOPOGONIUM MUCUNOIDES* Desv. Fabaceae.

A tropical American legume with stems 3 to 10 feet long which form roots at each node, and racemes 1 to 4 inches long of pale-blue flowers. It forms a mat of foliage 1 to 2 feet thick and is used as a cover crop.

For previous introduction see No. 76095.

77295. *DOLICHOS HOSEI* Craib. Fabaceae.

A creeping leguminous vine, native to the Malay States, with rich light-green leaves and yellow flowers. It is used as a cover crop in rubber plantations, also for green manure.

For previous introduction see No. 76102.

77296. *INDIGOFERA ENDECAPHYLLA* Jacq. Fabaceae.

Annual or biennial tropical African prostrate legume, 2 to 3 feet long, with seven to nine oblong leaflets and dense racemes of violet-purple flowers. It is used as a cover crop.

For previous introduction see No. 67844.

77297. *MEIBOMIA GYROIDES* (DC.) Kuntze (*Desmodium gyroides* DC.) Fabaceae.

A shrubby leguminous plant 8 to 10 feet high, native to the warmer parts of the central and eastern Himalayas. It has pubescent leaves and terminal racemes of reddish purple flowers.

For previous introduction see No. 76774.

77298 to 77302. *SACCHARUM OFFICINARUM* L. Poaceae. Sugarcane.

From Tucuman, Argentina. Cuttings presented by Dr. William E. Cross, Director, Estación Experimental Agrícola, through E. W. Brandes, Bureau of Plant Industry. Received August 25, 1928.

Promising mosaic resistant or immune varieties which have given good results in Argentina.

77298. No. 362. 77301. No. 454.

77299. No. 407. 77302. No. 472.

77300. No. 450.

77303. SOLANUM MELONGENA L. Solanaceae. Eggplant.

From Tiflis, Georgia, Russia. Seeds presented by the director of the Botanic Garden. Received August 20, 1928.

Locally grown seeds.

77304 and 77305. LACTUCA SATIVA L. Cichoriaceae. Lettuce.

From Yungsui, Hunan, China. Seeds presented by Father Theophane Maguire, C. P., Catholic Mission, Passionist Fathers. Received August 30, 1928.

Awh swen. A vegetable planted in this region during the early months of the year. When it has sprouted the sprouts are transplanted about a foot apart. The sturdy stem when developed is peeled and sliced into thin pieces. It may be prepared uncooked, eaten like cucumbers with vinegar, etc., or it may be cooked with meat juices until soft.

77304. A foreign variety.

77305. A native variety.

77306. CITRUS sp. Rutaceae. Cuban shaddock.

From Holguin, Cuba. Seeds presented by Thomas R. Towns. Received August 17, 1928.

A shaddock used as a stock for citrus varieties in Cuba; especially good for navel orange, but not for grapefruit or the kumquat.

For previous introduction see No. 68978.

77307. ERIOBOTRYA JAPONICA (Thunb.) Lindl. Malaceae. Loquat.

From Yungsui, Hunan, China. Seeds presented by Father Theophane Maguire, C. P., Catholic Mission, Passionist Fathers. Received August 30, 1928.

The fruits are not large, and they are gathered in clusters because the seeds leave little meat. This variety makes delicious jam.

77308 to 77312. GOSSYPIUM spp. Malvaceae. Cotton.

From Peru. Seeds obtained through O. F. Cook, Bureau of Plant Industry. Received July 26, 1928.

77308. GOSSYPIUM sp.

No. 1. *Tanguis*. From Huacho Valley, Pisco.

77309. GOSSYPIUM sp.

No. 2. *Tanguis*. From Huacho Valley, Pisco.

77310. GOSSYPIUM sp.

No. 3. *Algodon tanguis*. From Unanue hacienda, Canete Valley.

77311. GOSSYPIUM sp.

No. 4. *Algodon tanguis*. From Unanue hacienda, Canete Valley.

77312. GOSSYPIUM sp.

No. 5. *Algodon tanguis*. From Hualcura hacienda, Canete Valley.

77313 to 77318. PRUNUS spp. Amygdalaceae.

From Benenden, Kent, England. Bud sticks presented by Capt. Collingwood Ingram. Received August 7, 1928.

77313. PRUNUS INCISA × SERRULATA.

Umineko.

77314. PRUNUS INCISA × SUBHIRELLA.

77315 to 77317. PRUNUS SERRULATA Lindl. Oriental cherry.

77315. Daikoku [the god of prosperity].

A variety introduced into England about 1905, with large purplish pink double flowers up to 2 inches wide. The thick purplish red buds are truncate at the end, and the young foliage is yellowish green.

For previous introduction see No. 72008.

77316. Hokusai [named by Captain Ingram after the famous Japanese artist]. Tree spreading, up to 20 feet high; young leaves bronze colored; flowers semidouble up to 2 inches in diameter, light pink, borne in loose clusters.

77317. Cheal's Weeping cherry. Tree of medium size, with pendulous branches and a profusion of rather small but double deep-pink flowers resembling carnations.

77318. PRUNUS SERRULATA SACHALINENSIS (Schmidt) Makino (P. sargentii Rehder). Sargent cherry.

A tall handsome tree, native to northern Japan, up to 80 feet high, with smooth dark-brown bark and ovate or ovate-lanceolate, sharply serrate leaves up to 5 inches long. The single pink flowers, 1 to 1½ inches wide, are in few-flowered clusters, and the black fruits are about the size of peas. This wild Japanese cherry is considered by E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., to be the parent of several of the finest double-flowered varieties of flowering cherries and also to be the most satisfactory stock on which to work these varieties.

For previous introduction see No. 73881.

77319. ANTHEMIS SANCTI-JOHAANNIS Stoy., Steff., and Turrill. Asteraceae.

From Victoria, British Columbia, Canada. Seeds presented by J. C. Bennett. Received August 31, 1928.

An ornamental herbaceous perennial, 3 to 4 feet high, native to the mountain slopes of Bulgaria at an altitude of 4,000 feet. The woolly stems, with few branches, have two to three times partly pinnate basal leaves, 5 to 7 inches long, the tips of which are armed with hard white acuminate points. The stem leaves are similar but gradually smaller, leaving bare stems 3 to 7 inches below the flower heads, which are solitary, 1 to 2 inches broad, and the ray flowers and disk are an intense orange, making a brilliant showing in contrast to the woolly leaves.

77320. PTYCHOSPERMA MACARTHURI Wendl. Phoenixaceae. Palm.

From Little River, Fla. Seeds presented by Charles F. Simpson. Received August 30, 1928.

77320—Continued.

An Australian cluster palm now 14 feet high and having about a dozen stems. It bears pinnate leaves eroded at the ends of the leaflets. It may seed at almost any time of the year. This palm was blown down and badly broken by the big hurricane, but it is beginning to regain something of its former beauty. (*Letter of August 22, 1928, from Mr. Simpson.*)

77321 to 77326.

From Madagascar. Seeds collected by Charles F. Swingle, Bureau of Plant Industry. Received August 21, 1928.

77321. BAPHIA CAPPARIDIFOLIA Baker.
Fabaceae.

No. 4426. From Mananika, Valley of Betsiboka, July 6, 1928. A shrub or tree, native to Madagascar, with slender branchlets, simple lanceolate leaves 2 to 3 inches long, and cymes of yellow flowers half an inch across.

77322. CITRUS GRANDIS (L.) Osbeck (C. decumana Murr.). Rutaceae.
Grapefruit.

July 3, 1928. Pink-fleshed grapefruit obtained in the market at Majunga. Several of the fruits obtained at this time were entirely seedless.

77323. GOSSYPIUM OBTUSIFOLIUM AFRICANUM Watt. Malvaceae. Cotton.

No. 4429. From Mananika, Valley of Betsiboka, July 6, 1928. A half-woody African shrub, 6 feet high, which differs from the Indian form in having more copious and finer wool. The flowers are yellow, changing to reddish.

For previous introduction see No. 63728.

77324. HIBISCUS SABDARIFFA L. Malvaceae.
Roselle.

No. 4412. From Mananika, Valley of Betsiboka, July 6, 1928. A half-woody tropical shrub with a stem 3 to 6 feet high and 2 inches in diameter; horizontal branches; calyx succulent, acid, edible; flowers used for marmalade.

77325. URENA LOBATA L. Malvaceae.

No. 4383. From Madriovala, Valley of Betsiboka, July 5, 1928. An erect undershrub with cordate entire or lobed leaves 2 to 3 inches long, flowers an inch across, rose red at the base and small fruits armed with hooked bristles. The stems furnish a fiber used for bags and twine.

For previous introduction see No. 52228.

77326. (Undetermined.)

No. 4427. A large tree growing at Mananika, Valley of Betsiboka, July 6, 1928.

77327 to 77330. SOLANUM MELONGENA L. Solanaceae. Eggplant.

From Calcutta, India. Seeds presented by the curator of the industrial section of the Indian Museum. Received September 5, 1928.

77327. *Elokeshi.* 77329. *Makre.*

77328. *Kuli.* 77330. *Muktaveshi.*

77331. CAPSICUM VIOLACEUM H. B. K.
Solanaceae.

From Santa Cruz, Calif. Seeds presented by C. A. Reed. Received September 7, 1928.

The seeds of this variety were originally obtained in Peru in 1918 and planted in the hills near Santa Cruz in 1919. Two of the original plants are producing fruits, and the seeds received are from one of these plants which is now 9 feet high.

77332. CITRUS sp. Rutaceae. Pison.

From Sorsogon, Luzon, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received September 12, 1928.

Obtained in the market. A juicy fruit of subacid and very pleasant taste, something like a grapefruit but sweeter. Judging from the samples obtained, it is too fibrous and seedy for eating, but it might be that in cultivation much of the fiber would disappear. The trees are said to be 40 feet high and very vigorous, so this variety may prove a promising new citrus stock.

77333. SASA TESSELATA (Munro) Mak.
and Shib. (*Arundinaria ragumowski* Pfitzer). Poaceae. Bamboo.

From Generargues, France. Plant purchased from Gaston Negre. Received January 28, 1928. Numbered July, 1928.

A Japanese bamboo, 3 to 6 feet high, with arching stems and broad rounded masses of large leaves.

For previous introduction see No. 75167.

77334 to 77384. SACCHARUM OFFICINARUM L. Poaceae. Sugarcane.

From Port Moresby, New Guinea. Cuttings collected by E. W. Brandes, Bureau of Plant Industry. Received September 12, 1928.

77334. No. 1.

77335. No. 2.

77336. No. 3.

77337. No. 4.

77338. No. 5.

77339. No. 6.

77340. No. 7.

77341. No. 21.

77342. No. 22.

77343. No. 23.

77344. No. 24.

77345. No. 25.

77346. No. 26.

77347. No. 251.

77348. No. 252.

77349. No. 253.

77350. No. 254.

77351. No. 255.

77352. No. 256.

77334 to 77384—Continued.

77353. No. 257.
 77354. No. 258.
 77355. No. 259.
 77356. No. 260.
 77357. No. 261.
 77358. No. 262.
 77359. No. 263.
 77360. No. 264.
 77361. No. 265.
 77362. No. 266.
 77363. No. 267.
 77364. No. 268.
 77365. No. 269.
 77366. No. 270.
 77367. No. 271.
 77368. No. 272.
 77369. No. 273.
 77370. No. 274.
 77371. No. 275.
 77372. No. 276.
 77373. No. 277.
 77374. No. 278.
 77375. No. 279.
 77376. No. 280.
 77377. No. 281.
 77378. No. 282.
 77379. No. 283.
 77380. No. 284.
 77381. No. 285.
 77382. No. 286.
 77383. No. 287.
 77384. No. 288.

77385 and 77386.

From Richmond, Australia. Seeds presented by F. H. Baker. Received September 7, 1928.

77385. *CALLISTEMON CITRINUS* (Curtis) Skeels (*C. lanceolatus* DC.). Myrtaceae. Lemon bottlebrush.

An Australian shrub up to 12 feet high, with lanceolate leaves 1 to 3 inches long, reddish when young, and spikes, 2 to 4 inches long, of small flowers with long bright-red stamens.

For previous introduction see No. 74424.

77386. *HAEKEA ACICULARIS* (Vent.) Knight (*H. sericea* Schrad.). Proteaceae.

A tall evergreen Australian shrub or small tree with awl-shaped leaves 1 to 3 inches long and axillary clusters of small white flowers.

For previous introduction see No. 73855.

77387 to 77394.

From Haiti. Seeds obtained through O. F. Cook, Bureau of Plant Industry. Received September 11, 1928.

77385 and 77386—Continued.

- 77387 to 77391. *CASTILLA* spp. Moraceae.

Tropical trees from which rubber is obtained.

77387. *CASTILLA ELASTICA* Cerv. Rubbertree.

A large deciduous tropical American forest tree from which rubber is obtained.

For previous introduction see No. 61483.

77388. *CASTILLA PANAMENSIS* O. F. Cook.

A large tree, native to Panama, with oblong leaves about a foot long which are very rough above and hairy beneath. The fruiting receptacles, produced in great profusion, are orange-red and are very showy. This tree is commonly planted in Central America as a shade tree.

For previous introduction see No. 30514.

77389. *CASTILLA* sp.

77390. *CASTILLA* sp.

X-1.

77391. *CASTILLA* sp.

X-2.

77392. *CRYPTOSTEGIA GRANDIFLORA* R. Br. Asclepiadaceae. Palay rubbervine.

An erect woody climber of unknown nativity, but now cultivated in many places in the Tropics of both hemispheres as an ornamental, and occasionally growing as an escape from cultivation. The flowers, reddish purple becoming pale pink, are about 2 inches in diameter, resembling those of our common milkweed, and are produced in short spreading cymes. In India the plant is called *palay* and is cultivated for the rubber obtained from the juice.

For previous introduction see No. 75218.

77393. *FUNTUMIA ELASTICA* (Preuss) Stapf. Apocynaceae. Lagos rubbertree.

A large forest tree which is very widely distributed throughout central Africa and is the source of Lagos rubber, which is of excellent quality.

For previous introduction see No. 73991.

77394. *HEVEA BRASILIENSIS* (H. B. K.) Muell. Arg. Euphorbiaceae. Para rubbertree.

From Bayeux, Haiti. A tropical Brazilian tree now extensively cultivated for rubber.

For previous introduction see No. 72980.

- 77395 and 77396. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

From Kashan, Persia. Seeds obtained from Aquai Hassan Agha Assady. Received September 18, 1928.

77395. No. 1.

77396. No. 2.

77397 and 77398. CANNABIS SATIVA L.
Moraceae. Hemp.

From Valdivia, Chile. Seeds presented by J. A. Momberg, through L. H. Dewey, Bureau of Plant Industry. Received September 20, 1928.

77397. A variety grown at the city of Valdivia.

77398. A variety grown at Lanco.

77399. NICOTIANA TABACUM L.
Solanaceae. Tobacco.

From Port Moresby, New Guinea. Plants collected by E. W. Brandes, Bureau of Plant Industry. Received September 13, 1928.

A variety grown by the natives in New Guinea.

77400 and 77401. LILIUM spp.
Liliaceae. Lily.

From Chosen. Bulbs collected by R. K. Beattie, Bureau of Plant Industry. Received July 10, 1928.

77400. LILIUM sp.

No. 686. June 1, 1928. Plants growing in the shade of trees by the trail at Makaen, about 6 miles northeast of Choanji, in the Inner Kongosan or Diamond Mountains.

77401. LILIUM sp.

No. 700. June 12, 1928. A red-flowered lily, with dark spots inside the flower, growing in dry rocky places on the hills west of Shinchido, which is located on the railroad between Heijo and Chinnampo. The plants were in bud when gathered.

77402. PASSIFLORA LIGULARIS JUSS.
Passifloraceae. Sweet granadilla.

From Peru. Seeds presented by Gale H. Carter, Grace Line, New York City, N. Y. Received September 1, 1928.

These granadilla seeds are especially selected from the common variety which grows in the district of Lima.

For previous introduction see No. 54035.

77403. ANANAS MAGDALENAE (Andre)
Standl. Bromeliaceae.

From Summit, Canal Zone. Seeds presented by J. E. Higgins, Plant Introduction Garden. Received July 7, 1928.

Pita de Colombia. A wild tropical American pineapple with bright-red subglobose fruits 6 inches in diameter on long stalks. The long leaves contain a fiber used for rope and twine, and the acid fruits are eaten either raw or cooked.

77404 to 77411. PRUNUS spp.
Amygdalaceae.

From Jamaica Plain, Mass. Seeds presented by E. H. Wilson, Arnold Arboretum. Received July 11, 1928.

77404. PRUNUS CONCINNA Koehne.

A small upright shrub, native to the mountains of central China. The single light-pink flowers with deeper pink calyxes, about an inch across, are produced in great abundance and form a pleasing combination with the deep-green young foliage and gray bark.

77404 to 77411—Continued.

77405. PRUNUS INCISA Thunb.

Mame cherry.

For previous introduction and description see No. 77261.

77406. PRUNUS INCISA SERRATA Koidz.

Differs from the typical form chiefly in having leaves with almost simple serrations and long aristate teeth.

77407. PRUNUS NIPPONICA Mats.

A bushy tree, up to 20 feet high, with oval, long-pointed doubly serrate leaves 1 to 3 inches long and single, light-pink flowers an inch across, solitary or in twos or threes. It is a handsome cherry when in full bloom.

77408. PRUNUS SERRULATA SACHALINENSIS (Schmidt) Makino (P. sargentii Rehder).
Sargent cherry.

For previous introduction and description see No. 77318.

77409. PRUNUS SERRULATA SPONTANEA (Maxim.) Wilson.

This is the *Yamazakura* [mountain cherry] of southern Japan. It is a rather common wild tree in thickets from the extreme south to about the central portion in the vicinity of Nikko. Under favorable conditions it becomes a spreading tree 60 feet or more in height, and differs from *Prunus serrulata sachalinensis* in having smaller flowers. Its chief value appears to be as an understock for the cultivated varieties of flowering cherries.

For previous introduction see No. 55717.

77410. PRUNUS SUBHIRTELLA Miquel.
Higan cherry.

For previous introduction and description see No. 77266.

77411. PRUNUS SUBHIRTELLA AUTUMNALIS Makino.

Jugatsuzakura [October cherry; literally tenth-month cherry]. Tree spreading, with a rounded crown, about 20 feet high; flowers rosy pink, semidouble, about half an inch in diameter, abundantly produced early in October, with a smaller crop of flowers in the spring; sometimes the heavier crop of flowers is borne in the spring.

For previous introduction see No. 69091.

77412. CITRUS AURANTIFOLIA (Christm.) Swingle. Rutaceae. Lime.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, through W. T. Swingle, Bureau of Plant Industry. Received July 7, 1928.

Mindoro. A Philippine variety with juicy thin-skinned fruits which are the size and shape of a small lemon and very precocious.

77413. MERREMIA PELTATA (L.) Merr.
Convolvulaceae. Morning-glory.

From Los Banos, Laguna Province, Philippine Islands. Seeds collected by O. W. Pflueger, Los Banos School of Forestry, and presented by P. J. Wester, Bureau of Agriculture, Manila. Received July 9, 1928.

77413—Continued.

Tampinita. A Philippine morning-glory with large dark-green leaves and large clusters of very showy yellow flowers.

77414. *CYCAS* sp. Cycadaceae.

From Kobe, Japan. Plants obtained by Prof. H. H. Bartlett, Director, Botanic Gardens and Arboretum, University of Michigan, Ann Arbor. Received August 25, 1927. Numbered July, 1928.

Dwarf cycads put on the S. S. *President Van Buren* for decorating the ship. They are a specialty of the nurserymen at Kobe and seem to be different from the ones common in greenhouses in the United States. They are ornamental palmlike woody plants, with glossy green pinnate leaves, and are native to tropical Asia.

77415 to 77420. *SACCHARUM OFFICINARUM* L. Poaceae. Sugarcane.

From Australia. Cuttings obtained through E. W. Brandes, Bureau of Plant Industry. Received July 12, 1928.

These varieties were collected in northern New South Wales.

77415. *H. Q. 5.* 77418. *Bogela.*

77416. *N. G. 14.* 77419. *Mahona.*

77417. *N. G. 16.* 77420. *Q. 813.*

77421. *BRASSICA* sp. Brassicaceae.

From Peking, China. Seeds presented by J. E. Ferguson, through W. T. Swingle, Bureau of Plant Industry. Received July 12, 1928.

P'iao ts'ai. A bitter Chinese cabbage.

77422. *CITRUS SINENSIS* (L.) Osbeck. Rutaceae. Orange.

From Rehoboth, Palestine. Bud wood presented by Albert Kaufmann, through A. Friedman, Palestine Jewish Colonization Association, Jaffa. Received July 14, 1928.

The Jaffa or Shamouti orange of Jaffa, Palestine, is a large oval bright-orange fruit of excellent quality, maturing from October to April. The fruit is practically seedless, the skin usually thick, and the flesh of excellent quality. This variety is the basis of the rapidly developing Palestine orange industry. Ninety-five per cent of the fruit is marketed in England.

For previous introduction see No. 75226.

77423 to 77432.

From Chosen. Seeds collected by R. K. Beattie, Bureau of Plant Industry. Received July 3, 1928.

77423. *ACER* sp. Aceraceae.

No. 696. Trail southwest of Onseiri, toward Shinkeiji, Outer Kongosan or Diamond Mountains, June 6, 1928. A small attractive maple with good dark-green leaves.

77424. *AQUILEGIA* sp. Ranunculaceae. Columbine.

No. 692. A Japanese columbine with red and yellow flowers, growing among rocks and coarse decomposed granite on the banks of a river at Choanji, Inner Kongosan or Diamond Mountains, May 31, 1928.

77423 to 77432—Continued.

77425. *BERBERIS AMURENSIS* Rupr. Berberidaceae. Amur barberry.

No. 697. A wild barberry growing near the river at Choanji, Inner Kongosan or Diamond Mountains, June 1, 1928. An eastern Asiatic shrub up to 10 feet high, with yellowish gray branchlets, 3-parted spines an inch long, elliptic leaves 2 to 3 inches long, 10-flowered to 25-flowered pendulous racemes, and bright-red fruits.

For previous introduction see No. 72406.

77426. (Undetermined.)

No. 688. Makaen, near Choanji, Inner Kongosan or Diamond Mountains, June 1, 1928.

77427. *RODGERSIA* sp. Saxifragaceae.

No. 691. A Japanese herbaceous perennial growing among rocks along the river at Choanji, Inner Kongosan or Diamond Mountains, June 1, 1928.

77428. *ROSA* sp. Rosaceae. Rose.

No. 699. A wild rose growing by the roadside at Atami, Shizuoka Ken, May 6, 1928.

77429 to 77432. *SALIX* spp. Salicaceae. Willow.77429. *SALIX* sp.

No. 689. A small silky-leaved willow growing among rocks on the bank of the river at Choanji, Inner Kongosan or Diamond Mountains, June 1, 1928.

77430. *SALIX* sp.

No. 690. A slender willow, about 25 feet high, growing at Shimpori, Inner Kongosan or Diamond Mountains, June 1, 1928.

77431. *SALIX* sp.

No. 694. A willow tree, about 30 feet high, growing above Fire Dragon Falls, on the trail to Makaen, near Choanji, Inner Kongosan or Diamond Mountains, June 1, 1928.

77432. *SALIX* sp.

No. 695. A willow growing near Fire Dragon Falls, on the trail to Makaen, near Choanji, Inner Kongosan or Diamond Mountains, June 1, 1928.

77433. *PRUNUS CAPULI* Cav. Amygdalaceae. Capulin.

From Orizaba, Mexico. Seeds presented by Dr. C. A. Purpus, Zacuapam, Vera Cruz, Mexico. Received July 19, 1928.

A tropical American tree up to 40 feet high, with lanceolate long-pointed coriaceous leaves 6 to 8 inches long, stout racemes 4 to 6 inches long of small white flowers followed by nearly black globose edible fruits half an inch in diameter.

For previous introduction see No. 62688.

77434. *SOLANUM MACROCARPON* L. Solanaceae.

From Luchenza, Nyasaland Protectorate, Africa. Seeds presented by L. S. Norman. Received July 13, 1928.

77434—Continued.

A stout undershrub with a much-branched smooth stem and ovate-sinuate margined leaves 8 inches long. The racemose cymes, opposite the leaves, bear blue-purple flowers, 1 to 2 inches broad, which are followed by globose yellow fruits the size of an apple.

For previous introduction see No. 76688.

77435. FRAGARIA sp. Rosaceae.**Strawberry.**

From Juneau, Alaska. Plants presented by the district forester, through G. M. Darrow, Bureau of Plant Industry. Received July 14, 1928.

A strawberry from the coast region of Alaska which differs from the usual form in having thinner leaves and in having the seeds more deeply embedded in the receptacle.

77436. EHRHARTA CALYCINA J. E. Smith. Poaceae.**Perennial veldt grass.**

From Perth, Western Australia. Seeds presented by Elder, Smith & Co. Received July 14, 1928.

A grass 4 feet high which is popular as forage in Western Australia where it was introduced accidentally by the camel owners in fodder imported from South Africa. It is said to be very nutritious.

For previous introduction see No. 75200.

77437. EPHEDRA ALATA Decaisne. Gnetaeae.

From Algiers, Algeria, Africa. Seeds presented by Dr. L. Trabut, Government botanist, through W. T. Swingle, Bureau of Plant Industry. Received July 10, 1928.

A tall freely branching shrub with rough, green equisetumlike branches, small scalelike leaves, and inconspicuous flowers, native to northern Africa and Arabia. Of possible value as a source of ephedrine.

77438. EPHEDRA ALATA Decaisne. Gnetaeae.

From Algiers, Algeria, Africa. Seeds presented by Dr. René Maire, University of Algiers, through W. T. Swingle, Bureau of Plant Industry. Received July 17, 1928.

For previous introduction and description see No. 77437.

77439 and 77440. SOLANUM spp. Solanaceae.

From Bangkok, Siam. Seeds presented by Dr. E. D. Merrill, Dean of the College of Agriculture of the University of California, Berkeley, through W. T. Swingle, Bureau of Plant Industry. Received July 17, 1928.

77439. SOLANUM sp.

Mawangton. A tropical bush.

77440. SOLANUM sp.

A tropical vine.

77441 to 77447.

From Australia. Seeds presented by Mrs. Frieda Cobb Blanchard, University of Michigan, Ann Arbor. Received July 14, 1928.

77441 to 77447—Continued.**77441. INDIGOFERA AUSTRALIS Willd. Fabaceae. Indigo.**

An erect Australian shrub, 2 to 4 feet high, with pinnately compound leaves and dense racemes of showy red flowers. It may be suitable for growing as an ornamental in the warmer parts of the United States.

For previous introduction see No. 61059.

77442. LINOSPADIX MONOSTACHYA (Mart.) Wendl. (*Bacularia monostachya* F. Muell.). Phoenicaceae.**Walkingstick palm.**

From National Park, Macpherson Range, Queensland, at an altitude of 3,500 feet. An Australian shrub 6 to 12 feet high with stems an inch in diameter, pinnate leaves 2 to 4 feet long, flower clusters often longer than the leaves, and ovoid green fruits half an inch in diameter.

77443. MACROZAMIA sp. Cycadaceae.

From Broken Bay, north of Sydney. An Australian cycaslike plant with pinnate leaves, of value as an ornamental.

77444. OLEARIA TERETIFOLIA (Sond.) F. Muell. (*Aster teretifolius* F. Muell.). Asteraceae. Daisytree.

From National Park, Macpherson Range, Queensland, at an altitude of 4,000 feet. A broomlike Australian shrub up to 5 feet high, which stands clipping and might be used as a hedge plant. It is covered with masses of small white flowers which give the bush a snowlike appearance.

For previous introduction see No. 47192.

77445. PITTOSPORUM sp. Pittosporaceae.

From National Park, Macpherson Range, Queensland, at an altitude of 4,000 feet. A very pretty shrub, especially when in fruit.

77446. POTHOS LONGIPES Schott. Araceae.

From National Park, Macpherson Range, Queensland, at an altitude of 3,500 feet. A tall-climbing Australian shrub clinging by aerial roots, leaves with a winged petiole 5 or 6 inches long, and a blade usually not as long as the petiole, decurved and lanceolate. The flowers resemble those of the Indian turnip, and the ripe fruit is a cluster of red berries.

77447. SWAINSONA GALEGIFOLIA (Andrews) R. Br. (*S. coronillaefolia* Salisb.). Fabaceae. Goatsrue senna-pea.

From the Botanic Garden, Melbourne, Victoria. A low shrubby Australian plant with compound vetchlike leaves and scarlet-orange flowers borne on long axillary stems.

For previous introduction see No. 76945.

77448. CHAENOMELES LAGENARIA WILSONII Rehder. Malaceae.

From Elstree, Herts, England. Seeds presented by the Hon. Vicary Gibbs, Aldenham House Gardens. Received July 17, 1928.

A western Chinese shrub up to 20 feet high, with long persisting lustrous dark-green leaves and bright early-appearing salmon-pink flowers 1 to 2 inches across.

For previous introduction see No. 58605.

77449. PRUNUS MAJESTICA Koehne.
Amygdalaceae.

From Benenden, Kent, England. Seeds presented by Capt. Collingwood Ingram. Received July 17, 1928.

A large handsome tree up to 70 feet tall, growing in southwestern China at an altitude of 4,000 feet. It has large broadly lanceolate-serrate leaves, small umbels of rosy to white flowers, and ovoid dark-red fruits.

For previous introduction see No. 58013.

77450. EPHEDRA DISTACHYA L. (E.
vulgaris Rich.) Gnetaceae.

Common jointfir.

From Peshawar, Northwest Frontier Province, India. Seeds presented by Nawazieh Ali, Professor of Botany, through John R. Ives, American vice consul, Karachi, India. Received July 23, 1928.

A low procumbent shrub, native to southern Europe and Asia, with erect dark-green branches, scalelike leaves, inconspicuous flowers, and globose red berries. A possible source of ephedrin.

For previous introduction see No. 61418.

77451. CYTISUS PALMENSIS (Christ)
Hutchinson. Fabaceae. Tagasaste.

From Rabat, Morocco. Seeds presented by Dr. E. Miegé, Station de Sélection et d'Essai de Semences. Received July 23, 1928.

A shrubby Canary Island legume with silvery gray leaves, which is valuable as a forage crop.

For previous introduction see No. 65584.

77452 and 77453. HEDYSARUM spp.
Fabaceae.

From Oran, Algeria. Seeds presented by Prof. A. Faure. Received July 20, 1928.

77452. HEDYSARUM CAPITATUM Desf.

An annual Algerian legume with purple flowers, of possible value for forage or green manure.

For previous introduction see No. 66143.

77453. HEDYSARUM PALLIDUM Desf.

A decumbent perennial legume, native to northern Africa, with compound pubescent leaves, clusters of purple-streaked white flowers, and spiny articulated pods. It has been recommended for green manure in olive orchards.

For previous introduction see No. 66146.

77454. INGA SPECTABILIS Willd. Mimosaceae.

From Summit, Canal Zone. Seeds presented by J. E. Higgins, Plant Introduction Gardens. Received May 7, 1928. Numbered July, 1928.

A large handsome tropical American tree with leaves composed of two pairs of wide coriaceous leaflets, spikes of greenish white flowers, and enormous thick pods containing an edible whitish pulp.

77455 and 77456. SOLANUM MELONGENA
L. Solanaceae. Eggplant.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, Director of the Botanic Gardens. Received July 26, 1928.

77455. Variety breviolaceum.**77456. Variety viride.****77457. FLACOURTIA INDICA** (Burm. f.)
Merr. (*F. ramontchi* L'Herit.).
Flacourtiaceae. Ramontchi.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received July 24, 1928.

A spiny arborescent Philippine shrub 20 feet high, with crenate leaves, small white flowers, and smooth dark-purple fruits containing a sweet juicy pulp.

For previous introduction see No. 61648.

77458. GOSSYPIUM PERUVIANUM Cav.
Malvaceae. Peruvian cotton.

From Chira Valley, Peru. Seeds obtained through O. F. Cook, Bureau of Plant Industry. Received July 26, 1928.

A cotton which grows to a height of 12 feet.

For previous introduction see No. 73132.

77459. SACCHARUM OFFICINARUM L.
Poaceae. Sugarcane.

From Herradura, Cuba. Cuttings presented by F. S. Earle. Received July 2, 1928.

Creole.

77460. CITRUS AURANTIFOLIA (Christm.)
Swingle. Rutaceae. Lime.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received July 28, 1928.

For previous introduction and description see No. 77412.

77461 to 77465.

From Omsk, Russia. Seeds presented by S. Maskovsky, Director of the West Siberian Agricultural Experiment Station, through H. N. Vinall, Bureau of Plant Industry. Received July 27, 1928.

Siberian varieties.

77461. BROMUS INERMIS Leyss. Poaceae.
Bromegrass.

No. 4040.

77462. MEDICAGO FALCATA L. Fabaceae.
Yellow-flowered alfalfa.

No. 1694.

77463. MEDICAGO SATIVA L. Fabaceae.
Alfalfa.

No. 1450.

77464. MELILOTUS ALBA Desr. Fabaceae.
White sweetclover.

No. 8079.

77465. VICIA CRACCA L. Fabaceae.
Cow vetch.

No. 8081.

77466 to 77472. PRUNUS ARMENIACA L.
Amygdalaceae. Apricot.

From Jerusalem, Palestine. Seeds presented by A. Grasovsky, southern inspectorate of agriculture. Received July 30, 1928.

77466. *Frangi*.

77467. *Klabi*.

77468. *Lozi*. A variety with sweet kernels.

77469. *Mawi*.

77470. *Mustekawi*. A variety with bitter kernels.

77471. *Mustekawi*. A variety with sweet kernels.

77472. *Wardi*.

77473. BRACHIARIA BRIZANTHA
(Hochst.) Stapf. Poaceae. Grass.

From Luchenza, Nyasaland Protectorate, Africa. Seeds presented by L. S. Norman. Received July 18, 1927. Numbered August, 1928.

A tall tropical African perennial grass, up to 6 feet high, with a short stout rhizome, erect stems, and very narrow leaves up to 15 inches long. It is one of a series of nine grasses selected by T. D. Maitland, former botanist of Uganda, as being the most promising indigenous grasses for forage there.

For previous introduction see No. 75293.

77474. BRACHIARIA BRIZANTHA
(Hochst.) Stapf. Poaceae. Grass.

From east Africa. Seeds collected by L. W. Kephart and R. L. Piemeisel, agricultural explorers, Bureau of Plant Industry. Received March 17, 1928. Numbered August, 1928.

No. 386. Government plantation, Kampala, Uganda.

For previous introduction and description see No. 77473.

77475. LYCOPERSICON ESCULENTUM Mill.
Solanaceae. Tomato.

From Tucuman, Argentina. Seeds presented by Dr. W. E. Cross, Director, Estación Experimental Agrícola. Received August 1, 1928.

Paraná. A variety from Argentina.

77476 and 77477.

From Jerusalem, Palestine. Bulbs and seeds presented by E. R. Sawyer, Department of Agriculture, Forests, and Fisheries. Received August 2, 1928.

77476. COLCHICUM DECAISNEI Boiss. Melanthiaceae.

Seeds and bulbs. This variety, native to Syria, differs very little from *Colchicum laetum*, which in turn is much like *C. autumnale*. The rosy lilac flowers appear without the leaves in late October.

77477. CROCUS HYEMALIS Boiss. and Blanche. Iridaceae.

Seeds of a late autumn or winter-flowering crocus common around Jerusalem. The flowers are white, deep orange in the throat, with varying feathers of deep purple on the backs of the outer segments.

77478 to 77480. FICUS CARICA L.
Moraceae. Fig.

From Grande Kabylie, Algeria, Africa. Scions presented by E. Rolland, Comice Agricole de Tizi Ouzou. Received February 4, 1926. Numbered August, 1928.

77478. *Carma adjar*.

77479. *Sultane*.

77480. *Sultane du Marabout*.

77481. FICUS CARICA L. Moraceae. Fig.

From Italy. Bud sticks presented by Dr. Mario Calvino, San Remo. Received August 24, 1926. Numbered August, 1928.

Pissalutto. Bud sticks from the best plant of this variety growing in the Hanbury Botanical Garden of La Mortola, Ventimiglia. It is an old Italian variety cultivated in Ventimiglia and San Remo and is the best variety for fresh and dried fruit.

77482. FICUS CARICA L. Moraceae. Fig.

From Palestine. Cuttings presented by Amram Khazanoff, the Palestine Jewish Colonization Association, Haifa. Received May 13, 1927. Numbered August, 1928.

Kharrobki. From the Ram Allah Mountains of Judea.

77483. PHALARIS TRUNCATA Guss.
Poaceae. Grass.

From Algiers, Algeria, Africa. Seeds presented by Dr. L. Trabut, Government botanist. Received August 6, 1928.

A perennial grass, about 2 feet high, native to the Mediterranean region. The flowers are borne in a dense spike like timothy.

For previous introduction see No. 46952.

77484. EXACUM ZEYLANICUM Roxb.
Gentianaceae.

From Peradeniya, Ceylon. Seeds presented by F. A. Stockdale, Director, Department of Agriculture. Received August 7, 1928.

An erect East Indian annual a foot high, with leaves at the base and a terminal cluster of large deep-purple flowers having bright-orange stamens.

For previous introduction see No. 66835.

77485 and 77486. SOLANUM MELONGENA L. Solanaceae. Eggplant.

From Zanzibar, Africa. Seeds presented by V. H. Kirkham, Director, Agricultural Department. Received August 7, 1928.

77485. A wild variety.

77486. A cultivated variety.

77487. SOLANUM MELONGENA L. Solanaceae. Eggplant.

From Fala, Belgian Congo, Africa. Seeds presented by E. Wirion, Director, Botanic Garden. Received August 6, 1928.

A violet-fruited Congo variety.

77488. MACARANGA GRANDIFOLIA
(Blanco) Merr. Euphorbiaceae.

77488—Continued.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, through Peter Bisset, Bureau of Plant Industry. Received July 12, 1928.

A Philippine ornamental, with large leaves like an *Anthurium* which may become a very showy conservatory plant.

77489. POLYTRIAS AMAURA (Buehse) Kuntze (*P. praemorsa* Hack.). Poaceae. Java grass.

From Port of Spain, Trinidad, British West Indies. Plants presented by W. G. Freeman, Director of the Trinidad Department of Agriculture. Received June 6, 1928. Numbered September, 1928.

A common lawn and pasture grass native to low altitudes in Java.

For previous introduction see No. 32111.

77490 and 77491. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From Honolulu, Hawaii. Seeds presented by Prof. F. G. Krauss, University of Hawaii. Received September 19, 1928.

77490. Variety New Era strain D.

77491. Variety New Era strain X.

77492. SOLANUM sp. Solanaceae.

From Java. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila, Philippine Islands. Received September 24, 1928.

Kubiu. A Brazilian plant said to be used as a vegetable in Java. It is probably very tender and does not endure frost.

77493 to 77495. CUCURBITA MAXIMA Duchesne. Cucurbitaceae. Squash.

From Sydney, New South Wales, Australia. Seeds presented by G. D. Ross, Undersecretary, Department of Agriculture. Received September 21, 1928.

77493. Cowra crown.

77494. Hawkesbury.

77495. Triangle.

77496 to 77539. SACCHARUM OFFICINARUM L. Poaceae. Sugarcane.

From Sydney, New South Wales, Australia. Cuttings presented by P. H. Goldfinch, acting general manager of the Colonial Sugar Refining Co., at the request of E. W. Brandes, Bureau of Plant Industry. Received September 21, 1928.

Mr. Goldfinch says that these cuttings belong to the 21 N. G. series, a designation which indicates that they were collected in New Guinea in 1921.

77496. No. 1.

77497. No. 2.

77498. No. 3.

77499. No. 4.

77500. No. 5.

77501. No. 6.

77502. No. 7.

77503. No. 9.

77504. No. 10.

77496 to 77539—Continued

77505. No. 11.

77506. No. 12.

77507. No. 13.

77508. No. 14.

77509. No. 15.

77510. No. 16.

77511. No. 17.

77512. No. 18.

77513. No. 19.

77514. No. 20.

77515. No. 21.

77516. No. 22.

77517. No. 23.

77518. No. 24.

77519. No. 25.

77520. No. 29.

77521. No. 30.

77522. No. 31.

77523. No. 32.

77524. No. 33.

77525. No. 34.

77526. No. 35.

77527. No. 36.

77528. No. 37.

77529. No. 44.

77530. No. 49.

77531. No. 50.

77532. No. 51.

77533. No. 52.

77534. No. 53.

77535. No. 54.

77536. No. 55.

77537. No. 56.

77538. No. 57.

77539. No. 58.

77540 to 77582.

From Nelson, New Zealand. Seeds presented by A. Wilkinson, Hon. Secretary and Treasurer of the New Zealand (Nelson) Alpine and Rock Garden Society. Received September 13, 1928.

77540. ACAENA sp. Rosaceae.

A herbaceous perennial, native to New Zealand, with alternate, pinnate leaves having incised leaflets and small flowers in terminal or interrupted spikes.

77541. ALECTRYON EXCELSUM Gaertn. Sapindaceae. Titoki.

A handsome New Zealand tree up to 60 feet high and 2 feet in diameter, with pinnately compound leaves having four to six pairs of obliquely lanceolate leaflets 4 inches long, brownish silky beneath, and panicles a foot long of small flowers without petals but having large dark-red anthers. The tough elastic wood is used for ax handles, etc.

For previous introduction see No. 73992.

77540 to 77582—Continued.

77542. *ARISTOTELIA FRUTICOSA* Hook. f.
Elaeocarpaceae.

An erect or decumbent much-branched shrub, 3 to 8 feet high, native to New Zealand. The coriaceous leaves vary from linear to obovate and are entire, crenate, serrate, or lobed. The small flowers are solitary or in small racemes and are followed by small yellowish berries.

77543. *ARTHROPODIUM CIRRHATUM* (Forst. f.) R. Br. Liliaceae.

A herbaceous perennial up to 3 feet high, with shining grasslike leaves and showy panicles of white flowers an inch across, having the stamens covered with pink bristles.

For previous introduction see No. 77173.

77544 to 77546. *ASTELIA* spp. Liliaceae.

77544. *ASTELIA CUNNINGHAMII* Hook. f.

A densely tufted epiphytic or terrestrial herb, native to New Zealand. The linear leaves are about 5 feet long, and the small reddish yellow to maroon flowers are borne in large panicles on scapes 1 to 3 feet high and covered with white silky hairs. The fruits are small red globose berries.

77545. *ASTELIA NERVOSA* Banks and Soland.

A stout densely tufted New Zealand perennial often forming extensive masses in moist forests on swampy ground. The spreading lanceolate leaves are 3 to 8 feet long with the midrib and several other nerves colored red. The fragrant greenish black flowers are borne in large panicles on scapes 1 to 2 feet high and are followed by bright orange-yellow berries.

77546. *ASTELIA PETRIEI* Cockayne.

An attractive densely tufted perennial native to New Zealand, where it forms large patches in alpine meadows. The long-pointed sword-shaped leaves are 1 to 3 feet long, smooth and shining above and silvery white beneath. The inconspicuous flowers are in short panicles hidden among the leaves.

77547. *BULBINELLA HOOKERI* (Colenso) Cheeseman. Liliaceae.

A New Zealand herbaceous perennial varying in size from 3 to 4 inches up to 3 feet. The numerous glaucous green leaves are linear, and the loose racemes of bright-yellow flowers are on slender scapes up to 10 inches high.

77548. *CASSINIA VAUVILLIERSII* (Homb. and Jacq.) Hook. f. Asteraceae.

An erect closely branched New Zealand shrub up to 8 feet high, with narrowly oblong leathery leaves half an inch long, densely white tomentose beneath, and dense terminal corymbs of white flowers.

For previous introduction see No. 76564.

77549 to 77551. *CELMISIA* spp. Astera-
ceae.

77540 to 77582—Continued.

77549. *CELMISIA ARMSTRONGII* Petrie.

A herbaceous perennial, native to New Zealand, with short stout stems crowned by radiating sword-shaped leaves, 18 inches long, having an orange midrib and covered with satiny tomentum. The heads of white flowers, 1 to 2 inches broad, are borne on white cottony scapes about the length of the leaves.

77550. *CELMISIA CORIACEA* (Forst. f.) Hook. f.

A herbaceous perennial, native to New Zealand, with a short stout stem crowned with lanceolate leaves 1 to 2 feet long from which arise several stout woolly scapes 3 feet high bearing heads of white flowers more than 3 inches broad.

77551. *CELMISIA SPECTABILIS* Hook. f.

A New Zealand herbaceous perennial, often forming large patches, with short stout stems and numerous linear-oblong thick leaves, 6 inches long, covered with silvery hairs above and densely matted pale buff wool beneath. The several stout cottony scapes are longer than the leaves and bear white flower heads 1 to 2 inches broad.

77552. *CHORDOSPARTIUM STEVENSONI* Cheeseman. Fabaceae.

A leafless shrub or small tree up to 20 feet high, native to New Zealand, with long slender pendulous branches and racemes, 1 to 2 inches long, of small purple flowers.

77553. *COPROSMA RUGOSA* Cheeseman. Rubiaceae.

A densely branched New Zealand shrub, 4 to 10 feet high, with yellowish brown branchlets, opposite or fascicled linear leaves less than half an inch long, small axillary flowers, and broadly oblong translucent pale-blue berries half an inch long.

77554 to 77556. *DIANELLA INTERMEDIA* Endl. Liliaceae.

A herbaceous perennial, native to New Zealand, with numerous sword-shaped leaves, 3 feet long, crowded at the base of a scape 2 feet high, which bears a spreading panicle of small purplish flowers having bright-orange anthers, and followed by broadly oblong blue berries.

77554. [No data.]

77555. A pale blue-berried variety.

77556. A dark blue-berried variety.

77557. *DRACOPHYLLUM TRAVERSII* Hook. f. Epacridaceae.

A New Zealand tree up to 30 feet high and 2 feet in diameter, with leathery lanceolate leaves 2 feet long and terminal spikelike panicles, 1 to 2 feet long, of reddish flowers.

77558. *DRACOPHYLLUM URVILLEANUM* A. Rich. Epacridaceae.

A shrub 4 to 8 feet high, native to New Zealand, with slender erect branches, very narrowly linear leathery leaves 5 inches long, and small white or red flowers in racemes on short lateral branchlets.

77559. *GAULTHERIA OPPOSITIFOLIA* Hook. f. Ericaceae.

77540 to 77582—Continued.

A New Zealand shrub, 2 to 8 feet high, with leathery cordate leaves 1 to 3 inches long and compound axillary and terminal racemes of small white flowers.

For previous introduction see No. 48166.

77560. GAYA LYALLII (Hook. f.) Baker f. Malvaceae.

One of the most beautiful of the New Zealand trees, up to 30 feet high, graceful and spreading, with the growing parts covered with stellate hairs. The cordate-crenate leaves are 2 to 4 inches long on slender petioles, and the large white flowers, an inch across, are borne in axillary clusters.

For previous introduction see No. 48167.

77561. HYMENANTHERA CRASSIFOLIA Hook. f. Violaceae.

A low rigid prostrate or erect densely branched shrub, native to New Zealand, with grayish white shiny branches, thick leathery spatulate leaves with entire, sinuate, or lobed margins, small flowers, and broadly oblong purplish berries.

77562. HYMENANTHERA DENTATA ALPINA Kirk. Violaceae.

A New Zealand shrub 1 to 2 feet high forming a densely compact mass of spiny branches, with very small thick leathery leaves, minute flowers, and globose berries.

77563. LIBERTIA GRANDIFLORA (R. Br.) Sweet. Iridaceae.

A densely tufted herbaceous perennial, native to New Zealand, with stiff leathery linear leaves up to 3 feet long, and a flowering stem as tall as the leaves bearing a branching panicle of white flowers each an inch broad.

For previous introduction see No. 77190.

77564. LIBERTIA IXIODES (Forst. f.) Spreng. Iridaceae.

A New Zealand herbaceous perennial very similar to *Libertia grandiflora*, but with the leaves 1 to 2 feet long and the flowers one-half to 1 inch broad.

77565. LINUM MONOGYNUM Forst. f. Linaceae. Flax.

A smooth perennial herb 1 to 2 feet high, native to New Zealand, with scattered linear-lanceolate leaves an inch long and large white flowers an inch across in terminal corymbs.

For previous introduction see No. 52371.

77566. METROSIDEROS PERFORATA (Forst.) A. Rich. Myrtaceae.

A tall woody climber, native to New Zealand, with sessile leathery ovate to orbicular leaves half an inch long and leafy terminal panicles of small white flowers.

77567. MYRTUS OBCORDATA (Raoul) Hook. f. Myrtaceae.

A New Zealand shrub up to 15 feet high, with slender spreading branches, opposite leathery obcordate leaves half an inch long, solitary axillary white flowers, and broadly ovoid dark-red or violet berries a quarter of an inch long.

77568. NOTHOPANAX ARBOREUM (Forst.) Seem. Araliaceae.

77540 to 77582—Continued.

A round-headed New Zealand tree up to 25 feet high, with stout brittle branches. The five to seven palmately folioate leathery leaves are made up of serrate-oblong leaflets 4 to 7 inches long. The flowers are in broad terminal compound umbels and are followed by purplish black fruits broader than long and more than a quarter of an inch in diameter.

For previous introduction see No. 43599.

77569 to 77571. OLEARIA spp. Asteraceae. Daisytree.

77569. OLEARIA AVICENNIAEFOLIA (Raoul) Hook. f.

A small branching New Zealand tree up to 20 feet high, with white tomentose branchlets, alternate entire lanceolate leaves 2 to 4 inches long, and large much-branched corymbs of small cylindrical flower heads.

77570. OLEARIA ILICIFOLIA Hook. f.

A shrub or small tree, 5 to 20 feet high, with a strong musky odor, native to New Zealand. The alternate rigid leathery linear-lanceolate leaves are 2 to 4 inches long and clothed beneath with thin yellowish white tomentum. The numerous campanulate flower heads are in large rounded much-branched corymbs.

77571. OLEARIA NUMMULARIFOLIA Hook. f.

A closely branched New Zealand shrub with stout viscid branchlets, alternate coriaceous orbicular leaves half an inch long, and small solitary flower heads.

77572. OURISIA CROSBYI Cockayne. Scrophulariaceae.

A slender herbaceous perennial a foot high, native to New Zealand, with radical leaves having petioles 2 inches long and thin oblong blades 1 to 2 inches long. The clusters of three to five small white flowers with yellow throats are borne on slender stems.

77573. PACHYSTEGIA INSIGNIS (Hook. f.) Cheeseman (*Olearia insignis* Hook. f.). Asteraceae.

A robust spreading New Zealand shrub, 6 to 9 feet high, with stout densely tomentose branches, thick leathery oblong entire leaves, 3 to 7 inches long, white tomentose beneath, and large hemispherical heads, 3 inches in diameter, of white flowers on peduncles a foot long.

77574. PARSONSIA HETEROPHYLLA A. Cunn. Apocynaceae.

A tall slender branching New Zealand vine, woody at the base, with coriaceous leaves varying from linear to obovate 2 to 4 inches long, and terminal and axillary many-flowered cymes of small fragrant white flowers, followed by cylindrical pods 6 inches long.

77575. PITTOSPORUM CORNIFOLIUM A. Cunn. Pittosporaceae.

A slender sparingly branched epiphytic New Zealand shrub 2 to 5 feet high, with entire coriaceous lanceolate to obovate leaves 2 to 3 inches long and 1-flowered to 3-flowered umbels of small flowers followed by ovoid capsules which in ripening open and display the orange-colored interior and the black seeds.

77540 to 77582—Continued.

77576. PITTOSPORUM DALLII Cheeseman.
Pittosporaceae.

A round-topped tree up to 18 feet high, native to New Zealand, with sharply toothed oblong leathery leaves 2 to 4 inches long and dense terminal compound clusters of fragrant white flowers half an inch broad.

77577. POMADERIS APETALA Labill.
Rhamnaceae.

A shrub or small tree up to 15 feet high, native to New Zealand and Australia, with oblong-ovate crenulate leaves 4 inches long, having gray or whitish stellate pubescence beneath and axillary and terminal panicles 3 to 7 inches long of small flowers without petals. The foliage is said to be eaten readily by stock.

For previous introduction see No. 57935.

77578. RHIPOGONUM SCANDENS Forst.
Smilacaceae.

A tall climbing New Zealand shrub with oblong coriaceous leaves 3 to 5 inches long, small greenish flowers in axillary and terminal clusters, followed by bright-red globose berries. The long tough elastic stems have been used to make baskets.

77579. SENECIO ELAEAGNIFOLIUS Hook. f.
Asteraceae.

A spreading shrub 4 to 10 feet high, native to New Zealand, with ovate leathery leaves, 2 to 5 inches long, pale buff tomentose beneath, and stout branched terminal panicles of small flower heads.

77580. SENECIO PERDICIODES Hook. f.
Asteraceae.

A round-topped New Zealand shrub 2 to 6 feet high, with toothed oblong leaves 2 inches long and leafy corymbs of top-shaped yellow flower heads.

77581. VERONICA TRAVERSII Hook. f.
Scrophulariaceae.

A small compact New Zealand shrub 2 to 5 feet in diameter, with spreading leathery oblong leaves an inch long and racemes of small white flowers at the tips of the branches.

77582. VERONICA sp. Scrophulariaceae.

A subalpine veronica of which there are more than 100 species native to New Zealand, varying from creeping vines to small trees, with flowers in axillary or terminal racemes, spikes, or panicles.

77583. ILEX CORNUTA Lindl. and Paxt.
Aquifoliaceae. Chinese holly.

From Washington, D. C. Plants grown from cuttings collected by Paul Russell, Bureau of Plant Industry. Received September 5, 1928.

A form of the Chinese holly with nearly spineless leaves. These cuttings were taken from a pistillate shrub about 9 feet high, growing in the National Botanic Garden.

77584 to 77594.

From Rhenock, Sikkim State, India. Seeds and bulbs presented by R. B. and D. S. Pradhans, the Chandra nursery. Received September, 1928.

77584 to 77594—Continued.

77584. CINCHONA SUCCIRUBRA Pavon. Ru-
biaceae.

Seeds of a Peruvian tree up to 40 feet high, with broad leaves. It is suitable for cultivation on hillsides in frost-free regions. The bark is used in the manufacture of quinine.

For previous introduction see No. 60293.

77585. LILIUM GIGANTEUM Wall. Lilia-
ceae. Giant lily.

Seeds of a Himalayan lily which grows at altitudes between 7,500 and 9,000 feet, close to the surface in rich black mold, where it is covered with snow from November to April. The smooth hollow stems, 6 to 9 feet high, are sometimes used for musical pipes. The handsome cordate leaves, shining dark green above and paler beneath, are 10 to 12 inches long on petioles of equal length; both become smaller near the apex. In the large white fragrant flowers, often 12 to a raceme, the perianth tube is slightly greenish and the inner surfaces of the segments are tinged with deep purple.

For previous introduction see No. 76902.

77586 to 77588. LYCORIS spp. Amaryllida-
ceae. Cluster-amaryllis.

77586. LYCORIS AUREA (L'Her.) Her-
bert.

A Chinese bulbous perennial with sword-shaped leaves which die down before the appearance of the golden-yellow flowers, 3 to 4 inches across, borne in an umbel on a scape 1 to 3 feet tall.

77587. LYCORIS SANGUINEA Maxim.

A Japanese bulbous perennial with linear leaves dying down before the red flowers appear in an umbel on a scape 12 to 18 inches high.

77588. LYCORIS SQUAMIGERA Maxim.
Hardy cluster-amaryllis.

A Japanese bulbous perennial with linear leaves which die down before the appearance of the rosy lilac fragrant flowers.

77589. MERENDERA SOBOLIFERA Fisch. and
Mey. Melanthiaceae.

Bulbs of a small fragile perennial, native to Asia Minor and Persia, with three linear leaves and one to three lilac flowers 1 to 2 inches across.

77590 to 77592. NERINE spp. Amaryllida-
ceae.

77590. NERINE FLEXUOSA (Jacq.) Her-
bert.

Variety *alba*. A white form of this South African bulbous perennial with four to six bright-green linear leaves a foot long and a scape 2 to 3 feet high, bearing an umbel of 10 to 20 pale-pink flowers an inch long.

77591. NERINE PUDICA Hook. f.

A South African bulbous perennial with four to six glaucous-linear leaves 8 inches long and a scape 12 to 18 inches high, bearing an umbel of four to six white flowers.

80308 to 80339—Continued.

80316. *CYTISUS NIGRICANS ELONGATUS* Borkh. (*C. nigricans carlieri* Hort.).

Variety *Carlieri*. A deciduous shrub, native to Europe, 2 to 4 feet high, with erect pubescent branches, long-stemmed leaves composed of oval pubescent leaflets up to an inch long, and long slender racemes, 3 to 8 inches long, of rich-yellow flowers. This variety differs from the typical species in that it blooms a second time in the autumn at the top of the elongated fruiting racemes.

For previous introduction see No. 43838.

80317. *CYTISUS PRAECOX ALBUS* T. Smith. Warminster broom.

A smaller and more pendulous white-flowered form of *Cytisus praecox* which is a hybrid between *C. purgans* and *C. multiflorus*. The simple leaves are oblanceolate to linear spatulate and are silky pubescent.

80318. *CYTISUS PURGANS* (L.) Spach. Province broom.

A dwarf bushy deciduous shrub about 3 feet high, native to the Mediterranean region, often nearly leafless, with simple oblanceolate leaves which soon fall and fragrant deep golden-yellow flowers half an inch long produced singly or in pairs from the year-old wood.

For previous introduction see No. 73542.

80319. *CYTISUS ROCHELII* Wierzb.

A shrub, native to Hungary, 3 to 4 feet high, with villous terete branchlets, trifoliolate leaves of oblong-lanceolate leaflets an inch long, and terminal heads of pale-yellow flowers with brownish spots.

80320 to 80324. *CYTISUS SCOPARIUS* (L.) Link. Scotch broom.

80320. *Donard seedling*. A new variety of vigorous growth, bearing reddish-crimson flowers suffused with grayish white and yellow.

80321. *Rosy Moonlight*. A vigorous grower bearing cream-colored flowers tinged with rose.

80322. *Dorothy Walpole*. A hardy grower bearing an abundance of flowers with rich velvety crimson wings and rose standards.

80323. *Fulgens*. A variety bearing beautiful flowers with deep orange standards and rich crimson keels.

80324. *Lord Lambourne*. A variety in which the flowers have wings of vivid scarlet-crimson color and a standard of soft cream color tinted with rose on the reverse.

80325. *CYTISUS* sp.

Cornish Cream. A new and charming variety raised by P. D. Williams, Lanarth, St. Keverne, Cornwall. It produces an abundance of good-sized flowers with cream-colored standards and pure yellow on the keel, which gives a distinct and attractive appearance to the blooms. A vigorous grower, especially effective for mass effects.

80326. *CYTISUS* sp.

Moonlight. Flowers are sulphur yellow.

80308 to 80339—Continued.

80327. *CYTISUS* sp.

Osborni. A variety of recent introduction, raised at Kew. It is later flowering than *Cytisus praecox*, and although similar in growth, is perhaps of rather a stiffer habit, while there is no trace of the characteristic scent of that variety. The flowers are borne abundantly, and they are golden yellow in the bud, opening to a delightful pale yellow.

80328 to 80339. *ERICA* spp. Ericaceae. Heath.

80328. *ERICA ARBOREA ALPINA* Dieck.

An evergreen bushy heath, native to the mountainous regions of Cuenca, Spain, which has proved hardy at the Royal Botanic Gardens, Kew, England. The dull-white flowers are borne in stiff pyramidal clusters, but the chief beauty of the plant lies in the rich, cheerful green color of the foliage which, in England, lasts throughout the winter.

For previous introduction see No. 62023.

80329 to 80333. *ERICA CARNEA* L. Spring heath.

80329. *Pink Beauty*.

80330. *C. J. Backhouse*. Flowers bluish white.

80331. *Praecox Rubra*. A variety with rich rose carmine flowers.

80332. *Prince of Wales*. The flowers are soft pink.

80333. *Vivelli*. A red-flowered variety.

80334. *ERICA CILIARIS* L. Fringed heath.

Variety *Watsoni*.

80335. *ERICA CINEREA* L. Twisted heath.

Variety *atropurpurea*. Flowers deep purple.

80336. *ERICA MACKAILI* Hook. (*E. mackaiana* Bab.).

Variety *plena*. A double-flowered form of this hybrid between *Erica terralix* and *E. ciliaris*, which has ovate-oblong leaves in whorls of four and umbels of rosy flowers.

80337. *ERICA MEDITERRANEA* L. Biscay heath.

Variety *Brightness*. Flowers bright pink.

80338. *ERICA TETRALIX* L. Crossleaf heath.

Variety *rubra*. Attractive carmine flowers.

80339. *ERICA WILLIAMSHI* Druce.

A hybrid between *Erica tetralix* and *E. vagans*, with puberulous branchlets, sparingly ciliate leaves, and rosy salmon flowers borne during the late summer.

80340 to 80348. *TRITICUM* spp. Poaceae.

From Perth, Western Australia. Seeds presented by G. L. Sultan, Director of the Department of Agriculture. Received May 2, 1929.

80340 to 80348—Continued.

80340 to 80347. *TRITICUM AESTIVUM* L.
(*T. vulgare* Vill.) Common wheat.

80340. C 74. *D. A. C. A179* × *Florence*.

80341. C 80. *Dindiloa* × *Labawa*.

80342. C 86. *Florence* × *Velvet Don*.

80343. M 11. *Comeback* × *Florence*.

80344. M 28. *Dindiloa* × *Labawa*.

80345. M 29. *Dindiloa* × *Labawa*.

80346. M 30. *Dindiloa* × *Labawa*.

80347. P 1511. *Genoa*.

80348. *TRITICUM DURUM* Desf.
Durum wheat.

P 1211. *Kubanka*.

80349. *SACCHARUM SPONTANEUM* L.
Poaceae. Grass.

From Coimbatore, India. Cuttings presented by the Imperial Sugar Cane Breeding Station, through E. W. Brandes, Bureau of Plant Industry. Received April 26, 1929.

A perennial tropical grass closely related to the sugarcane. It is sometimes cultivated as a hedge plant.

For previous introduction see No. 77782.

80350 to 80355.

From Cape Town, Union of South Africa. Bulbs purchased from W. S. Duke & Co. Received February and March, 1926. Numbered in April 1929.

80350. *LACHENALIA RUBIDA* Jacq. Liliaceae.
Cape-cowslip.

A herbaceous perennial, native to South Africa, with a globose bulb from which arise usually two lanceolate, spotted leaves 6 inches long and a naked stalk 9 inches high, bearing a close raceme of small cylindrical, mostly drooping flowers. The outer segments are bright red tipped with green, and the inner segments are longer and yellow.

80351. *LACHENALIA TRICOLOR AUREA* (Lindl.) Hook. f. Liliaceae.
Cape-cowslip.

A herbaceous perennial, native to South Africa, closely resembling *Lachenalia rubida*, but the flowers are bright orange-yellow.

80352 to 80354. *ORNITHOGALUM* spp.
Liliaceae.

80352. *ORNITHOGALUM ARABICUM* L.
Arabian star-of-Bethlehem.

A herbaceous perennial, native to the Mediterranean region, with a thick, ovoid bulb, five to eight glaucous green leaves 12 to 18 inches long, and a scape 1 to 2 feet high, bearing a 6-flowered to 12-flowered raceme of fragrant white flowers. The pistil is black and adds to the attractiveness of the flowers. This species is very popular for pot culture.

80353. *ORNITHOGALUM SPECIOSUM* Baker.
Star-of-Bethlehem.

A herbaceous perennial, native to South Africa, with a globose bulb an inch in diameter, four short thick linear leaves, and a scape a foot high which bears three to five white flowers having an orange-red spot at the tip.

80350 to 80355—Continued.

80354. *ORNITHOGALUM THYRSOIDES AUREUM* (Curtis) Baker.
Chincherichee.

An ornamental, native to South Africa, with a globose bulb about 2 inches thick and five or six very narrow leaves 6 inches to a foot long. The golden-yellow flowers, sometimes an inch long under cultivation, are borne in rather dense racemes on a scape about a foot high. In a dried condition these make excellent "ever-lasting" flowers.

For previous introduction see No. 66891.

80355. *VALLOTA SPECIOSA* (L. f.) Dur. and Schinz. (*V. purpurea* Herbert). Amaryllidaceae.
Scarboro-lily.

A herbaceous perennial with an ovoid bulb, 6 to 18 lanceolate leaves 1 to 2 feet long, and a hollow stem 2 to 3 feet high, bearing an umbel of six to nine scarlet funnel-shaped flowers. Native to southern Africa.

80356. *HELENIUM AUTUMNALE* L. Asteraceae.
Sneezeweed.

From Niederwalluf am Rheim, Germany. Plants purchased from Goos & Koene-mann. Received April 24, 1929.

Wyndley. A plant 2½ feet high, bearing bronzy yellow flowers.

80357 to 80381.

From China. Seeds and rhizomes collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1929.

80357. *ABIES* sp. Pinaceae. Fir.

No. 17361. November, 1928. A lovely and stately tree, 60 to 80 feet high, growing in the forests of Tokesher, northwestern Yunnan, at an altitude of 12,000 feet. The needles are silvery beneath, and the very large cones are deep purplish black.

80358. *ACONITUM* sp. Ranunculaceae.
Monkshood.

No. 17376—A. November, 1928. A poisonous plant growing in the alpine meadows of the Likiang Snow Range, Yunnan, at altitudes between 11,000 and 12,000 feet. It is 3 to 4 feet high and bears rich blue flowers.

80359. *ANEMONE* sp. Ranunculaceae.

No. 17325. October, 1928. A plant half a foot high, growing in the glacier moraine of Sabaloko, at the foot of Mount Satseto, Likiang Snow Range, Yunnan, at an altitude of 12,000 feet. The leaves are a rich glossy green on the under surface, and the large white flowers have a purplish tinge beneath.

80360. *BAUHINIA* sp. Caesalpiniaceae.

No. 17377. November, 1928. A shrub or small tree, which prefers dry sunny situations, growing on the islands in Lake Yungning, northwestern Yunnan, at an altitude of 9,600 feet. It is 15 feet high and bears small white flowers.

80361. *COTONEASTER* sp. Malaceae.

No. 17365. December, 1928. A shrub growing in the Litang River gorge at Kere, Mulli, southwestern Szechwan, at an altitude of 9,500 feet. It is 6 to 10

- Inga spectabilis*, 77454.
Isopogon divergens, 77285.
scabriusculus, 77286.
sphaerocephalus, 77287.
- Jointfir, common. See *Ephedra distachya*.
- Kennedia comptoniana*, 77288.
prostrata, 77289.
- Lactuca sativa*, 77304, 77305.
 Lettuce. See *Lactuca sativa*.
Libertia grandiflora, 77563.
ixioides, 77564.
 Lilac, pinnate. See *Syringa pinnatifolia*.
Lilium spp., 77400, 77401.
giganteum, 77585.
 Lily. See *Lilium* spp.
 giant. See *L. giganteum*.
 Lime. See *Citrus aurantifolia*.
Linospadia monostachya, 77442.
Linum monogynum, 77565.
 Loquat. See *Eriobotrya japonica*.
Lycopersicon esculentum, 77475.
Lycoris aurea, 77586.
sanguinea, 77587.
squamigera, 77588.
- Macaranga grandifolia*, 77488.
Macrozamia sp., 77443.
 Maple. See *Acer* sp.
Medicago falcata, 77462.
sativa, 77463.
Meibomia gyroides, 77297.
Melilotus alba, 77464.
 Melon. See *Cucumis melo*.
Merendera sobolifera, 77589.
Merremia peltata, 77413.
Metrosideros perforata, 77566.
 Morning-glory. See *Merremia peltata*.
Myrtus obcordata, 77567.
- Nerine flexuosa*, 77590.
pudica, 77591.
sarniensis, 77592.
Nicotiana tabacum, 77399.
Nothopanax arboreum, 77568.
- Olearia avicenniaefolia*, 77569.
ilicifolia, 77570.
insignis. See *Pachystegia insignis*.
nummularifolia, 77571.
teretifolia, 77444.
- Orange. See *Citrus sinensis*.
Ourisia crosbyi, 77572.
- Pachystegia insignis*, 77573.
 Palm, walkingstick. See *Linospadia monostachya*.
 See also *Ptychosperma macarthuri*,
Washingtonia sonorae.
Parsonsia heterophylla, 77574.
Passiflora ligularis, 77402.
Phalaris truncata, 77483.
Phalocallis herbertii, 77593.
 Pigeon pea. See *Cajanus indicus*.
Pimelea sylvestris, 77290.
 Pison. See *Citrus* sp.
Pittosporum sp., 77445.
cornifolium, 77575.
dalii, 77576.
Pityrodia racemosa, 77291.
Polytrias amaura, 77489.
praemorsa. See *P. amaura*.
Pomaderris apetala, 77577.
- Pothos longipes*, 77446.
Prunus armeniaca, 77466-77472.
capuli, 77433.
cerasoides, 77594.
concinna, 77404.
incisa, 77261, 77405.
incisa serrata, 77406.
incisa × *serrulata*, 77313.
incisa × *subhirtella*, 77314.
maackii, 77262.
majestica, 77449.
nipponica, 77407.
puddum. See *P. cerasoides*.
sargenti. See *P. serrulata sachalinensis*.
serrulata, 77263-77265, 77315-77317.
serrulata sachalinensis, 77318, 77408.
serrulata spontanea, 77409.
subhirtella, 77266, 77410.
subhirtella autumnalis, 77411.
- Ptychosperma macarthuri*, 77320.
- Ramontchi*. See *Flacourtia indica*.
Rhipogonum scandens, 77578.
Rodgersia sp., 77427.
Rosa sp., 77428.
odorata gigantea, 77272.
 Rose. See *Rosa* spp.
 giant tea. See *R. odorata gigantea*.
 Roselle. See *Hibiscus sabdariffa*.
 Rubbertree. See *Castilla elastica*.
 Lagos. See *Funtumia elastica*.
 Para. See *Hevea brasiliensis*.
 Rubbervine, Palay. See *Cryptostegia grandiflora*.
- Saccharum officinarum*, 77298-77302, 77334-77384, 77415-77420, 77459, 77496-77539.
Salix spp., 77429-77432.
Sasa tessellata, 77333.
Senecio elaeagnifolius, 77579.
perdicoides, 77580.
 Senna-pea, goatsrue. See *Swainsona galegifolia*.
 Shaddock, Cuban. See *Citrus* sp.
Solanum spp., 77439, 77440, 77492.
macrocarpon, 77434.
melongena, 77303, 77327-77330, 77455, 77456, 77485-77487.
 Squash. See *Cucurbita maxima*.
Stachystemon vermicularis, 77292.
 Strawberry. See *Fragaria* sp.
 Sugarcane. See *Saccharum officinarum*.
Swainsona coronillaefolia. See *S. galegifolia*.
galegifolia, 77447.
 Sweetclover, white. See *Melilotus alba*.
Syringa pinnatifolia, 77267.
- Tagasaste. See *Cytisus palmensis*.
 Titoki. See *Alectryon excelsum*.
 Tobacco. See *Nicotiana tabacum*.
 Tomato. See *Lycopersicon esculentum*.
- Undetermined, 77326, 77426.
Urena lobata, 77325.
- Veronica* sp., 77582.
traversii, 77581.
 Vetch, cow. See *Vicia cracca*.
Vicia cracca, 77465.
- Washingtonia sonorae*, 77269.
 Willow. See *Salix* spp.

917130

UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 98



Washington, D. C.

Issued May, 1930

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, JANUARY 1 TO MARCH 31, 1929 (NOS. 78509 TO 80018)

CONTENTS

	Page
Introductory statement	1
Inventory	3
Index of common and scientific names	61

INTRODUCTORY STATEMENT

The plant material included in this inventory (Nos. 78509 to 80018) for the period January 1 to March 31, 1929, reflects very largely testing experiments undertaken by the office with ornamental plants in several important genera. In nearly all cases the material recorded was secured by the purchase of seed, and, as is always true of such undertakings, some seed has given no germination, with the result that the experiments are not as advanced as might appear. This is particularly true of the sedums, the primulas, and the gentians, which form conspicuous parts of the inventory.

The gardener will also notice the various other ornamentals, including the houseleeks, cyclamen, and ericas for more northern gardens; aloes, agaves, and mesembryanthemums for the South and Southwest, with the possible addition of the very interesting kalanchoes and the gingerlilies. The latter represent a collection purchased from India to see if other species might not be found for general use in the Southern and Gulf States.

A preliminary and not altogether successful importation of plants of various daphnes that should be included among our ornamental shrubs shows that repeated efforts should be made to establish these charming plants.

Several collections of acacias, banksias, grevilleas, and Ficus species should prove of interest in frost-free regions, particularly on the Pacific coast.

This inventory includes also large collections of oaks, castanopsis, and chestnuts obtained by R. Kent Beattie; a collection of oat varieties, presented by the director of the Sveriges Utsädesförening, Svalöf, Sweden; and a collection of seeds presented by Maj. Lionel de Rothschild from material collected by Capt. F. Kingdon Ward in Assam.

Especially because this inventory lists so many seeds, it should be repeated that this is merely a record of material received and does not represent a catalogue of available plants.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, who has had general supervision of this inventory.

KNOWLES A. RYERSON,
Principal Horticulturist, in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., February 20, 1930.

INVENTORY ¹

78509. ERYTHROXYLON COCA Lam.
Erythroxylaceae. Cocaine-tree.

From Soledad, Cienfuegos, Cuba. Seeds presented by R. M. Grey, superintendent, biological laboratory and botanical garden, institute for tropical biology and medicine, Harvard University. Received June 10, 1927. Numbered in January, 1929.

A tropical shrub, native to Peru, 5 to 6 feet high, with rusty brown slender branches bearing clusters of obovate leaves at their tips. The yellowish flowers are borne in clusters of three to five in the axils of small scales which line the branchlets. It is grown commercially on a large scale throughout the warmer parts of South America, also in Java and Ceylon, for the sake of cocaine, which is extracted from the dried leaves.

For previous introduction see No. 67943.

78510. CYRTANTHUS FLAMMEUS Hort.
Amaryllidaceae.

From Philadelphia, Pa. Bulbs presented by James Lambert, superintendent of the botanical laboratories of the University of Pennsylvania. Received March 8, 1929.

A South African bulbous perennial which is a rapid grower. It has linear to lanceolate leaves and umbels of red flowers.

78511. DIOSPYROS SINENSIS Hemsl.
Diospyraceae. Persimmon.

From Nanking, China. Plants obtained through W. T. Swingle, Bureau of Plant Industry. Received March 6, 1929.

A small semievergreen Chinese tree with a short thick trunk, wide-spreading branches and spiny branchlets, thick oblong-lanceolate leaves 2 to 3 inches long, and globose or ovoid golden edible fruits nearly an inch in diameter.

78512 and 78513. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

From Nikita, Yalta, Crimea, Russia. Trees presented by I. N. Riaboff, Government Botanical Garden. Received February 11, 1929.

78512. Pahlhnn.

78513. Yennoh.

78514 and 78515.

From Japan. Seeds obtained by R. K. Beattie, Bureau of Plant Industry. Received February 21, 1929.

Collected by Shimoyaku Eirinsho, at Nakama Kaikon, Shimoyaku Mura, Kumage Gun, Kagoshima Ken, in January, 1929.

78514. CASTANOPSIS CUSPIDATA (Thunb.) Schottky. Fagaceae.

Japanese chinquapin.

No. 850. *Shihi*. In Japan this tree is commonly cultivated from Tokyo southward. It grows from 30 to 75 feet high, with massive wide-spreading branches. The leaves are variable in size and shape and vary in color on the under side from brownish to nearly white. The small, sweet acorns are baked, boiled, or roasted, and regularly sold in the Japanese markets. This tree is hardy only in the southernmost United States.

For previous introduction see No. 75864.

78515. QUERCUS sp. Fagaceae. Oak.

No. 849. *Ubamegashi*.

78516. GOSSYPIUM STOCKSII Masters.
Malvaceae. Cotton.

From Nagpur, Central Provinces, India. Seeds presented by W. Youngman, economic botanist to the Government. Received March 1, 1929.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

78516—Continued.

A tropical Indian shrubby cotton with small yellow flowers. It came originally from the Sind Desert, and is of the 13-haploid-chromosome group and therefore will not cross with American types. The seed is difficult to germinate. It is sown in Nagpur about June, and before sowing the coat is carefully split with a knife or the seed is rubbed upon a piece of fine sandpaper, which allows access of water and helps germination.

For previous introduction see No. 77215.

78517. *DIERVILLA* sp. Hydrangeaceae.

From Morden, Manitoba, Canada. Cuttings presented by W. R. Leslie, superintendent of the experimental station for southern Manitoba. Received March 7, 1929.

A hardy ornamental shrub originally from Fort William, Ontario, Canada.

78518 to 78523.

From Rome, Italy. Scions presented by Signor Pirovano, through the American consulate, Rome. Received February 1, 1929.

78518. *PRUNUS CERASELLA* Hort. Plum. Amygdalaceae.

A very early hard plum.

78519 to 78522. *PRUNUS DOMESTICA* × *AMYGDALUS PERSICA*. Amygdalaceae.

Plum-peach hybrids.

78519. A strong-growing hybrid with sterile pink flowers.

78520. An extra strong hybrid with pink flowers.

78521. A normal hybrid.

78522. A fertile hybrid with heartlike fruit that bursts.

78523. *PRUNUS SALICINA* × *DASYCARPA*. Amygdalaceae. Hybrid plum.78524. *SARACA INDICA* L. Caesalpinia-ceae. Common saraca.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, Director, Java Botanic Gardens. Received February 4, 1929.

No. 200. A medium-sized Indian tree with pinnately compound leaves of 6 to 12 oblong leathery leaflets 6 to 9 inches long and orange-red fragrant flowers in compact panicles.

For previous introduction see No. 73260.

78525. *RIBES RECLINATUM* L. Grossulariaceae. Gooseberry.

From Alnarp, Akarp, Sweden. Plants presented by Carl G. Dahl. Received January 19, 1929.

Scania. A gooseberry resistant to gooseberry mildew. It might be classified as an improved type of Houghton, but the growth is better and the leaves remain on the bush for a longer time, as it is never attacked by *Glocosporium ribis*. The fruit is larger and was placed on the market in 1927.

78526. *ACTINIDIA* sp. Dilleniaceae.

From Deli Valley, Mishmi Hills, Assam, India. Seeds collected by Capt. F. Kingdon Ward and presented by Maj. Lionel de Rothschild, London, England. Received January 19, 1929.

78526—Continued.

No. 8690. September 26, 1928. A big ornamental vine of the middle forest, growing at an altitude of 10,000 feet. Native to Assam.

78527. *DIOSPYROS SINENSIS* Hemsl. Diospyraceae. Persimmon.

From Algeria, Africa. Seeds presented by Dr. L. Trabut, Government botanist, Algiers. Received March 8, 1929.

A large-fruited variety grown at the Station Botanique, Algiers, in 1928.

78528 and 78529.

From the New Hebrides. Seeds presented by Dr. E. D. Merrill, dean, college of agriculture, University of California. Received February 18, 1929.

78528. *ARECA* sp. Phoenicaceae. Palm.

No. 547. A tall pinnate-leaved palm similar to *Areca catechu*, the betel palm.

78529. *SEAFORTHIA* sp. Phoenicaceae. Palm.

No. 639. A pinnate-leaved palm.

78530. *CASTANOPSIS CONCINNA* (Champ.) A. DC. Fagaceae. Evergreen chinquapin.

From Hong Kong, China. Seeds presented by H. Green, Superintendent, Botanical and Forestry Department. Received February 20, 1929.

A Chinese tree with oblong-lanceolate entire leathery leaves about 3 inches long, and densely spiny burs containing a solitary depressed-globular nut.

78531. *GYNURA VIDALIANA* Elmer. Asteraceae.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 20, 1929.

An interesting Philippine herb with orange-colored flowers popular with bees.

78532 and 78533.

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received February 20, 1929.

78532. *CALLISTEMON CITRINUS* (Curtis) Skeels (*C. lanceolatus* DC.). Myrtaceae. Lemon bottlebrush.

An evergreen shrub up to 12 feet high, with lanceolate leaves 1 to 3 inches long, reddish when young, and spikes, 2 to 4 inches long, of small flowers with long bright-red stamens. Native to southeastern Australia.

For previous introduction see No. 77385.

78533. *HAKEA ACICULARIS* (Vent.) Knight (*H. sericea* Schrad.). Proteaceae

A tall evergreen Australian shrub or small tree with awl-shaped leaves 1 to 3 inches long and axillary clusters of small white flowers.

For previous introduction see No. 77386.

78534. *TAMARINDUS INDICA* L. Caesalpinaceae. Tamarind.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 21, 1929.

78534—Continued.

A variety of tamarind with pods which have flesh of very agreeable taste, tartness, and sweetness, making them very good for eating out of hand.

For previous introduction see No. 50186.

78535. FRAGARIA HAYATAI Makino.
Rosaceae. Strawberry.

From Mount Arisan, Taiwan. Plants collected by R. K. Beattie, Bureau of Plant Industry. Received February 21, 1929.

No. 851. March 26, 1928. A stoloniferous perennial with long-petioled radicle leaves of three rhombic-ovate leaflets serrate with the terminal tooth smaller than the others. The flowers have a light-green calyx and obovate-emarginate or cuspidate white petals, and the delicious globose red fruits are one-fourth of an inch in diameter. Native to Japan.

For previous introduction see No. 76499.

78536. PHASEOLUS AUREUS Roxb. Fabaceae. Mung bean.

From St. Croix, Virgin Islands. Seeds presented by Maybin S. Baker, Agronomist, Agricultural Experiment Station. Received February 28, 1929.

A San Domingo bean which made a larger growth at the experiment station than any other tested there. The seed was originally sent from Porto Rico under the name "San Domingo cowpea."

78537. CITHAREXYLUM BERLANDIERI Robinson. Verbenaceae.

From Brownsville, Tex. Seeds presented by Peter H. Heinz. Received March 9, 1929.

An ornamental shrub or small tree, up to 30 feet high, with pendent branches, oblong or rhombic leaves about 4 inches long, and short axillary racemes of small black fruits. It is native to northeastern Mexico.

78538. ELAEIS GUINEENSIS Jacq. Phoenicaceae. African oil palm.

From Buitenzorg, Java. Seeds presented by Dr. L. Koch, chief of section for breeding annual crops of the General Experiment Station for Agriculture. Received March 9, 1929.

Dura Aijpe.

For previous introduction see No. 73956.

78539. LYCOPERSICON ESCULENTUM Mill. Solanaceae. Tomato.

From Charleston, S. C. Seeds presented by Dr. L. C. Critchfield. Received March 11, 1929.

An Italian tomato with most wonderful keeping properties; said to keep over a month after ripening on the vine and to be delicious to eat like an apple or orange.

78540 to 78542. RHODODENDRON spp. Ericaceae.

From Japan. Seeds presented by Prof. Bungo Miyazawa, Miyazaki College of Agriculture at Miyazaki-Shi, Japan. Received March 15, 1929.

78540. RHODODENDRON OLDHAMII Maxim.

A much-branched, partly deciduous red-hairy shrub 3 to 18 feet high, with

78540—Continued.

thinly leathery oblong-lanceolate dark-green leaves and red flowers 2 inches wide in terminal umbels. Native to Taiwan.

78541. RHODODENDRON PULCHRUM Sweet (R. phoeniceum smithii Wilson).

A handsome shrub with spreading hairy branches, elliptic leaves densely hairy beneath, and two to three terminal rosy purple flowers 2 inches or more across. A hybrid between *R. ledifolium* and *R. indicum*.

78542. RHODODENDRON RIPENSE Makino.

A densely branched evergreen shrub, 3 feet or more high, with whorled branches, narrow lanceolate leathery green leaves, and pale-lilac flowers about 2 inches across, solitary or in twos or threes. Native to Tosa and Iyo, Japan.

78543 to 78547. AMYGDALUS PERSICA L. (Prunus persica Stokes). Amygdalaceae. Peach.

From Portici, Italy. Scions presented by Prof. Gaetano Briganti, R. Istituto Superiore Agrario. Received March 22, 1929.

78543. Terzarola tonda.**78544. Terzarola col pizzo.****78545. Giallona di Napoli o Terzarola Cavallara.****78546. Terzarola riccia.****78547. San Martino.****78548. CASTANEA CRENATA Sieb. and Zucc. Fagaceae. Japanese chestnut.**

From Japan. Scions obtained by R. K. Beattie, Bureau of Plant Industry. Received March 13, 1929.

No. 834. From the Okitsu Agricultural Experiment Station. January, 1929. *Shidare* (weeping chestnut) variety *pendula*.

78549. PSORALEA GUEINZII Harvey. Fabaceae.

From Kirstenbosch, Union of South Africa. Seeds presented by R. H. Compton, director of the botanic garden of the University of Stellenbosch, Kirstenbosch. Received March 15, 1929.

A South African perennial 1 to 2 feet high, with a woody base, herbaceous branches, sessile leaves each consisting of a single lanceolate folded leaflet an inch long, and small axillary flowers. Of possible use as a forage crop or for green manure.

78550 to 78558.

From Orleans, France. Plants purchased from Léon Chénault & Son. Received January 2, 1929.

78550. CARAGANA GERARDIANA Royle. Fabaceae.

A compact, much-branched shrub about 3 feet high, native to northwestern India, with densely tomentose twigs, compound leaves having 8 to 12 obovate silky leaflets, and ending in a spine 2 inches long. The solitary pale-yellow flowers are an inch long.

78551. CARYOPTERIS TANGUTICA Maxim. Verbenaceae.

78550 to 78558—Continued.

A shrub native to northwestern China, with opposite ovate leaves and axillary cymes of violet-blue flowers. It is closely related to the common bluebeard (*C. incana*).

For previous introduction see No. 77662.

78552. COTONEASTER PRAECOX Hort.
Malaceae.

A new prostrate dwarf species, with dark-green leaves, said to exceed in beauty all hitherto-known prostrate cotoneasters.

78553. COTONEASTER PYRENAICA Hort.
Malaceae.

This species is said to be a dwarf evergreen shrub native to the Himalayas.

78554. SPIRAEA HENRYI Hemsl. Rosaceae.
Henry spirea.

Variety *magnifica*. A spreading deciduous shrub about 7 feet high, with oblong-obovate wedge-shaped leaves usually coarsely dentate toward the apex and up to 2½ inches long, and with small white flowers in loose corymbs. Native to central and western China. This is of the same group as the well-known Anthony Waterer spirea.

78555. SYRINGA JULIANAE C. Schneid.
Oleaceae.

A handsome spreading shrub, 6 to 8 feet high, with elliptic-ovate leaves 2 to 3 inches long and numerous panicles of fragrant clear violet flowers which are borne very early in the season. Closely related to *S. velutina*.

78556. SYRINGA KOMAROWI SARGENTIANA
C. Schneid. Oleaceae. Lilac.

A shrubby lilac up to 15 feet high, native to China, with ovate-lanceolate leaves, 4 to 6 inches long, pubescent beneath, and compact nodding panicles of salmon-rose flowers. It is generally similar to *S. reflexa*.

78557. VIBURNUM BUDDLEIFORUM C. H. Wright. Caprifoliaceae.

A hairy shrub, native to central China, closely related to *V. veitchii*. It is about 6 feet high, with oblong-lanceolate leaves 3 to 6 inches long, dense clusters, about 3 inches across, of small white flowers, and ovoid black fruits.

For previous introduction see No. 58812.

78558. VIBURNUM HARRYANUM Rehder.
Caprifoliaceae.

An evergreen shrub up to 10 feet high, native to western China, with nearly orbicular leaves an inch long, small cymes of white flowers, and ovoid black fruits. The evergreen *V. davidi* is a related species.

For previous introduction see No. 66320.

78559 and 78560. LILIUM spp. Liliaceae. Lily.

From Japan. Bulbs obtained by R. K. Beattie, Bureau of Plant Industry. Received January 7, 1929.

78559. LILIUM sp.

No. 800. Collected in Kiraichi Mura, Kita Tsugaru Gun, Aomori Ken, by Morisaburo Sasaki.

78559 and 78560—Continued.

78560. LILIUM sp.

No. 801. December 10, 1928. A lily with light and deep-pink flowers, collected in Nakui, Nakui Mura, San Nohe Gun, Aomori Ken, by Morisaburo Sasaki.

78561 to 78565. GOSSYPIUM spp. Malvaceae. Cotton.

From Peru. Seeds obtained from Graham, Rowe & Co., through T. H. Kearney, Bureau of Plant Industry. Received January 3, 1929.

78561. GOSSYPIUM sp.

No. 1.

78562. GOSSYPIUM sp.

No. 2.

78563. GOSSYPIUM sp.

No. 3. The southern or *Ica* variety of the Peruvian tree cotton. Seeds picked from a tree growing in the hacienda San Jose de Ica, which came originally from Nosca, a valley farther inland and to the south.

78564. GOSSYPIUM sp.

No. 4. *Red Peruvian*.

78565. GOSSYPIUM sp.

No. 5. *Stained Peruvian*.

78566. PASPALUM NOTATUM Fluegge.
Poaceae. Bahia grass.

From Jaguey Grande, Cuba. Seeds purchased from Eugenia Gomez. Received January 7, 1929.

A perennial tropical American grass which has shown promise as a pasture grass in the southern United States. It has very stout rootstocks, makes a firm sod, and does well on sandy as well as on loam soils. The flowering culms and ascending stems attain a height of about 1 foot.

For previous introduction see No. 76433.

78567 to 78569.

From Japan. Seeds obtained by R. K. Beattie, Bureau of Plant Industry. Received January 7, 1929.

78567. PICEA GLEHNI (Schmidt) Masters.
Pinaceae. Sakhalin spruce.

No. 806. Collected by the Ogi Paper Co., of Tomakomai, Hokushu. A handsome Japanese evergreen tree up to 150 feet high, native to northern Japan. The cones are a lustrous brown or violet, and the seeds are said to retain their vitality for seven years.

For previous introduction see No. 78180.

78568. RHODODENDRON sp. Ericaceae. Azalea.

No. 795. A white-flowered azalea collected in the front garden of the Red Cross hospital, Aoyama, Tokyo, by Yasuo Kurihara. There was one bloom when the seed pods were picked on November 30, 1928. Mr. Kurihara believes this to be a wild species rather than a cultivated variety.

78569. RHODODENDRON sp. Ericaceae. Azalea.

No. 802. An azalea collected in Kiraichi Mura, Kita Tsugaru Gun, Aomori Ken, by Morisaburo Sasaki, November 2, 1928.

78570 to 78573. TRIFOLIUM PRATENSE
L. Fabaceae. Red clover.

From Helsingfors, Finland. Seeds presented by Dr. K. Linkola, director of the botanical institute and gardens of the University of Helsingfors. Received January 5, 1929.

Wild varieties.

78570. No. 1. 78572. No. 3.

78571. No. 2. 78573. No. 4.

78574. ARTOCARPUS CHAMPEDEN
(Lour.) Spreng. (*A. polyphema* Pers.). Moraceae.

From Singapore, Straits Settlements. Seeds presented by R. E. Holtum, Curator, Botanic Garden. Received January 10, 1929.

A handsome East Indian shade tree bearing small elongated fruits which are rather smooth skinned. The arillus has a peculiar sweet flavor.

For previous introduction see No. 68018.

78575 to 78577. FICUS spp. Moraceae.
Fig.

From the island of Guam. Seeds presented by C. W. Edwards, Director, Agricultural Experiment Station. Received January 9, 1929.

78575. FICUS MARIANNENSIS Merr.

A tropical plant, native to Guam, which starts as an epiphyte and eventually becomes a tall tree. The alternate, oblong-elliptic, entire leaves are up to about 5 inches long, and the axillary fruits are about two-fifths of an inch in diameter.

For previous introduction see No. 74591.

78576. FICUS PHILIPPINENSIS Miquel.

A climbing woody epiphytic strangling fig, native to the Philippine Islands, which sends down aerial roots and eventually kills the host plant. It has triangular branches, oval-oblong, leathery, long-pointed leaves, and axillary fruits.

For previous introduction see No. 74592.

78577. FICUS sp.**78578 and 78579. QUERCUS CERRIS** L.
Fagaceae. European Turkey oak.

From near Cambridge, England. Plants presented by R. C. B. Gardner. Received January 11, 1929.

78578. An ornamental tree, native to southeastern Europe, up to 100 feet high and 6 feet in diameter, with a broad spreading top, handsome dark-green pinnately lobed leaves which turn brown in the autumn, and slender acorns, 1 to 2 inches long, about half inclosed in a cup with recurved awl-shaped scales.

78579. Variety *laciniata*. Leaves deeply pinnatifid with acute, usually dentate, lobes.

78580 to 78583.

From Paget East, Bermuda. Seeds presented by J. C. Nauen, horticulturist of

78580 to 78583—Continued.

the agricultural station of the Department of Agriculture. Received January 10, 1929.

78580. CATALPA LONGISSIMA (Jacq.) Sims.
Bignoniaceae.

A West Indian timber tree with thin oblong-lanceolate leaves 3 to 6 inches long and terminal panicles of crisped campanulate white flowers.

78581. LEPTOSPERMUM SCOPARIUM Forst.
Myrtaceae. Manuka.

An evergreen shrub, one of the most abundant in New Zealand, of compact bushy habit, sometimes 30 feet high. The hard, leathery, sharp-pointed leaves are very aromatic, and for this reason they have sometimes been used for making tea. The flowers, borne in great profusion, are white or pink and about three-fourths of an inch across.

For previous introduction see No. 73090.

78582. YUCCA ALOIFOLIA L. Liliaceae.

A West Indian plant with a thick stem 6 to 8 feet high, bearing a crown of daggerlike leaves, spreading above, deflexed below, and a large panicle of waxy white flowers often tinged with purple.

78583. ZEPHYRANTHES ATAMASCO (L.)
Herb. Amaryllidaceae. Atamasco lily.

A bulbous perennial with bright-green linear leaves a foot long, and a scape, 6 to 12 inches high, bearing a flower 3 inches long, which is usually white, but may have a purplish tinge or be light purple. The flowers usually appear in the spring, but may also appear again in the fall.

78584 to 78588. AVENA SATIVA L. Poaceae.
Oats.

From Svalöf, Sweden. Seeds presented by the director, Sveriges Utsädesförening, Svalöf. Received January 14, 1929.

78584. Golden Rain No. 1.

For previous introduction see No. 77881.

78585. Golden Rain No. 2.

For previous introduction see No. 77883.

78586. Echo.

For previous introduction see No. 77880.

78587. Star.

For previous introduction see No. 77882.

78588. Viktory.

For previous introduction see No. 77879.

78589 to 78593. PYRUS spp. Malaceae.
Pear.

From Fruitland Park, Fla. Scions presented by Louis P. Bosanquet. Received January 17, 1929.

Varieties said to be blight resistant.

78589. PYRUS sp.

Carnes.

78589 to 78593—Continued.

78590. *PYRUS* sp.*Cincincis.*78591. *PYRUS* sp.*Hood.*78592. *PYRUS* sp.*Pineapple.*78593. *PYRUS* sp.*Shaw.*78594. *ALLIUM RETICULATUM* Fraser.
Liliaceae.

From Vancouver, British Columbia, Canada. Bulblets presented by Prof. John Davidson, department of botany, University of British Columbia. Received January 17, 1929.

A perennial, native to northwestern America, with a fibrous-reticulated bulb, narrow channeled leaves, and scapes, 4 to 8 inches high bearing umbels of white or pinkish flowers.

78595 and 78596. *PASSIFLORA* spp.
Passifloraceae.

From Brazil. Seeds presented by Prof. P. H. Rolfs, Escola Superior de Agricultura e Veterinaria de Minas Geraes. Received January 17, 1929.

78595. *PASSIFLORA MACROCARPA* Masters.

Collected at Rio Casca, Minas Geraes. An ornamental Brazilian vine producing strongly perfumed fruits which ripen from yellow to orange and have flesh about an inch thick.

78596. *PASSIFLORA* sp.

Collected on the school grounds. An ornamental Brazilian vine producing fruits about the size of a very large lemon.

78597 to 78600. *FICUS* spp. Moraceae.
Fig.

From Brisbane, Queensland, Australia. Seeds presented by C. T. White, Government botanist, Department of Agriculture and Stock. Received January 17, 1929.

78597. *FICUS GRACILIPES* F. M. Bailey.

A small semideciduous Australian tree with a drooping habit, coriaceous deep-green elliptical leaves 3 to 5 inches long, and globular deep-purple fruits an inch in diameter that are suitable for preserving.

78598. *FICUS HENNEANA* Miquel.

An Australian shrub or small tree with coriaceous oblong leaves 3 to 5 inches long and small globular white-mottled fruits less than an inch in diameter.

78599. *FICUS PLATYPODA PETIOLARIS* Benth.

A small tree, native to Queensland, with thick coriaceous ovate-cordate leaves 4 to 6 inches long and small fruits less than a fourth of an inch long.

78600. *FICUS WATKINSIANA* F. M. Bailey.

A large glabrous tree, native to Queensland, with light-colored bark, coriaceous lanceolate leaves about 6 inches long, and oblong greenish fruits more than an inch long on thick-angled pedicels.

78601. *MIMOSA* sp. Mimosaceae.

From Trinidad, British West Indies. Seeds presented by H. Caracciolo. Received January 11, 1929.

Sensitive tree from Trinidad.

78602. *CINCHONA LEDGERIANA* Moens.
Rubiaceae.

From Munsong, Kalimpong, Bengal, India. Seeds purchased from H. Thomas, manager of the Government cinchona plantation. Received January 18, 1929.

A tree, native to the Andes, yielding a bark remarkably rich in quinine which crystallizes readily as quinine sulphate. The percentage of the other alkaloids present is relatively small. The bark of this species matures in the fifth or sixth year and does not increase its quinine content after that. This tree is suitable for cultivation only on hillsides in frost-free regions.

For previous introduction see No. 60292.

78603. *CITRUS SINENSIS* (L.) Osbeck.
Rutaceae. Orange.

From Vigosa, Minas Geraes, Brazil. Plants presented by Prof. P. H. Rolfs, Escola Superior de Agricultura e Veterinaria do Estado de Minas Geraes, through Dr. W. A. Orton, Director and General Manager, Tropical Plant Research Foundation, Washington, D. C. Received January 7, 1929.

Laranja hanceta doce.

78604. *COLVILLEA RACEMOSA* Boj. Caes-
alpiniaceae.

From Trinidad, British West Indies. Seeds presented by W. G. Freeman, Director, Department of Agriculture. Received January 9, 1929.

This handsome tropical tree, believed to be native to east Africa, should be tested in southern Florida along with the poinciana, to which it is related. It is said to reach 40 or 50 feet in height. The pinnate leaves are 3 feet long, and the brilliant scarlet, curiously shaped flowers are borne in drooping racemes more than a foot long. The tree was named for Sir Charles Colville, Governor of Mauritius; it was discovered in 1824 on the west coast of Madagascar, where it flowers in April or May. In all probability it will stand no more frost than the poinciana. Like most other leguminous trees, it is readily propagated from seeds.

For previous introduction see No. 66504.

78605 to 78608.

From Manchuria, China. Seeds presented by V. K. Boerich, through V. Golubzoff, Harbin, Manchuria. Received January 17, 1929.

78605. *LILIUM DAURICUM* Ker. Liliaceae.
Candlestick lily.

Collected at Guliussutai, between the valleys of the Rivers Gan and Derbul.

For previous introduction see No. 75772.

78606. *LILIUM* sp. Liliaceae. Lily.

Collected in the Hukunbuir district in the valleys of the Gan and Derbul Rivers. The bulbs are eaten raw or boiled; Russian peasants of Transbaikalia mix these bulbs with millet and cook the whole into a gruel.

78605 to 78608—Continued.

78607. *PAEONIA ALBIFLORA* Pall. Ranunculaceae. Chinese peony.

An ornamental herbaceous perennial 2 to 3 feet high with white flowers. Native to China.

For previous introduction see No. 73195.

78608. *TRIFOLIUM LUPINASTER* L. Fabaceae. Clover.

A Siberian clover with five leaflets like a lupine leaf.

78609. *SARACA CAULIFLORA* Baker. Caesalpiniaceae.

From Bangalore, India. Seeds presented by the Superintendent of the Government Botanic Gardens. Received January 31, 1929.

A shrubby Indian tree with abruptly pinnate leaves of 10 to 12 thick rigid oblong to oblanceolate leaflets 6 inches to a foot long, and corymbs, 4 to 6 inches broad, of scarlet flowers.

78610 to 78615.

From Japan. Seeds obtained by R. K. Beattie, Bureau of Plant Industry. Received January 23, 1929.

78610. *CASTANOPSIS* sp. Fagaceae. Evergreen chinquapin.

No. 807. From the Tanushimaru Nursery Association, Ukiha Gun, Fukuoka Ken, originally collected at Mininoyama. The Japanese local name is Ichishihi.

78611. *CASTANOPSIS* sp. Fagaceae. Evergreen chinquapin.

No. 808. From the Rengechi Forest Experiment Station, Taichu Province, Taiwan.

78612 to 78615. *QUERCUS* spp. Fagaceae. Oak.

78612. *QUERCUS CASTANOPSIFOLIA* Hayata.

No. 812. From the Rengechi Forest Experiment Station, Taichu Province, Taiwan. A subtropical oak, related to *Quercus lepidocarpa*, native to Taiwan. The rather thin oblong-lanceolate leaves, dull green above, paler beneath, are about 10 inches long, and the acorns are globose depressed.

78613. *QUERCUS KONISHII* Hayata.

No. 809. From the Rengechi Forest Experiment Station, Taichu Province, Taiwan. An oak from the mountainous regions of Taiwan, with elliptic-oblong acuminate leaves 3 inches long and small hemispherical acorns half an inch across. It is said to be a distinct species with no closely related forms.

78614. *QUERCUS MIYAGII* Koidz.

Nos. 811 and 813. From the Okinawa Eirinsho, Luchu Islands, and originally collected at Yasunami, Kokuzu Mura, Kokuzu Gun, Okinawa Ken. A large erect tree, 40 feet high, with dense foliage. The leathery ovate-lanceolate leaves are 4 to 5 inches long, and the globose-ovoid acorns are about an inch in diameter. It is native to the Luchu Islands.

78615. *QUERCUS TOMENTOSICUPULA* Hayata.

No. 810. From the Rengechi Forest Experiment Station, Taichu Province,

78610 to 78615—Continued.

Taiwan. An oak, native to Taiwan, with stiff leathery oblong-lanceolate leaves 4 inches long, somewhat serrate, and broadly campanulate cups $1\frac{1}{2}$ inches across. It is related to *Quercus edithae*, but has much smaller acorns.

78616. *BORASSUS FLABELLIFER* L. Phoenixaceae. Palmyra palm.

From Jaffna, Ceylon. Seeds presented by W. P. A. Cooke, Division Agricultural Officer, Department of Agriculture. Received January 24, 1929.

The famous Palmyra palm of India and Ceylon which in the northern part of this island takes the place of the coconut palm. Though a slower grower, it is a very handsome palm when old. Inasmuch as it grows in the dry coastal regions of Ceylon, is apparently able to withstand any amount of lime, and is said to have been used successfully as a binder for sand dunes, it should prove of real value in the calcareous soils of southern Florida. In the number of uses to which it is put here it rivals the coconut. A delicate sugar is made from the sap which flows in abundance from its inflorescence when cut. The seeds are germinated and the young subterranean hypocotyl is used as a vegetable. The leaves are used in many different ways. The fruit, half the size of a coconut, is very attractive in appearance and when ripe exhales a delicate fragrance. The hull is eaten by the Tamils of Ceylon.

For previous introduction see No. 74590.

78617 to 78663.

From Japan. Seeds obtained by R. K. Beattie, Bureau of Plant Industry. Received January 2, 1929.

78617 to 78649. *CASTANEA CRENATA* Sieb. and Zucc. Fagaceae. Japanese chestnut.

Unless otherwise stated, these are selections from wild trees.

78617. No. 737. Collected in the Oshika Mago National Forest.

78618. No. 738. Collected in the Juni Sho Saruma Tozawa National Forest, Akita Gun, Akita Ken.

78619. No. 739. Presented by Morisaburo Sasaki, from Taizen, Akaishi Mura, Niski Tsugaru Gun, Aomori Ken.

78620. No. 740. Collected in Takizawa, Takizawa Mura, Iwate Gun, Iwate Ken.

78621. No. 741. Collected in the Etsunagi Public Forest, Kokuni Mura, Shimo Hei Gun, Iwate Ken.

78622. No. 742. Collected in the Yamaura Kwonita National Forest, Iwato Mura, Nishi Usuki Gun, Miyazaka Ken.

78623. No. 744. Obtained from Shon Shimyung, at Kal Huyngrri, north of Giseifu, east of Keijo, Chosen. The nuts are large and of the orchard rather than the forest type.

78624. No. 745. Obtained from the Shunrin Co., Giseifu, east of Keijo, Chosen.

78625. No. 746. Obtained at Dukehung, east of Giseifu, near Keijo, Chosen.

78617 to 78663—Continued.

78626. No. 748. Collected at Oguriyama, Chitose Mura, Naka Tsugaru Gun, Aomori Ken.
78627. No. 749. Collected in the Hisashi Hoden Osawayama National Forest, Hisashi Oguni Mura, Mogami Gun, Yamagata Ken.
78628. No. 750. Collected at Ota Public Genya (prairie), Hachimau Mura, Kusu Gun, Oita Ken. It is called locally Sasa guri, and Mr. Ikebe, Director of the Bureau of Utilization of Forest Products, states that it probably never grows very large, and usually grows on prairies where fire often sweeps through the scattered stands.
78629. No. 751. Collected in the Oshika Mago National Forest.
78630. No. 752. Collected in the Tamba Ashio University Forest.
78631. No. 753. Collected in the Yakunai National Forest, Akinomiya Mura, Okatsu Gun, Akita Ken.
78632. No. 754. From the forest of reforestation project 19 Rin Pan.
78633. No. 755. Collected at Noboribetsu Horobetsu Gun, Hokushu, by Bunsaburo Ishida, Botanic Garden, Hokushu University, Sapporo.
78634. No. 756. Collected at Makoma Nai, near Sapporo, Hokushu.
78635. No. 757. Collected at Atsubetsu, Hokushu.
78636. No. 758. Presented by Shintaro Kondo, Kamiteine, Teine Mura, Sapporo Gun, Hokushu.
78637. No. 760. Collected at Nakiu Lake, Kaminakui, Nakui Mura, San-nohe Gun, Aomori Ken.
78638. No. 761. Collected in the Ushio Yama Provincial Forest, Okunodamura Ushio, Higashi Yaminashi Gun, Yamanashi Ken.
78639. No. 763. Collected at the Poroto Forest Reserve, Shiraoi Mura, Shiraoi Gun, Iburi, Hokushu.
78640. No. 764. Presented by the Hamamachi Eirinsho, Kuma Moto Ken.
78641. No. 766½. Collected in the Kyoto University Forest, Wakayama Ken.
78642. No. 766½ B. Collected in the Kyoto University Forest, Wakayama Ken.
78643. No. 767½. Collected at Shikifu, near Shiraoi station, Shiraoi Mura, Shiraoi Gun, Iburi Province, Hokushu.
78644. No. 768. From the largest chestnut trees in Chosen at the Koryo Forest Experiment Station, east of Keijo.
78645. No. 768½. Collected northeast of Shiraoi, Shiraoi Mura, Shiraoi Gun, Iburi Province, Hokushu.
78646. No. 769. Collected at Chidoko, northeast of Shiraoi, Shiraoi Mura, Shiraoi Gun, Iburi Province, Hokushu.
78647. No. 770. Collected in the Ushio Yama Provincial Forest, Okunodamura Ushio, Higashi Yaminashi Gun, Yaminashi Ken.

78617 to 78663—Continued.

78648. No. 771. Collected in Ukiha Gun, Fukuoka Ken.
78649. No. 772. Collected at Ukiha Gun, Fukuoka Ken.
- 78650 to 78653. *CASTANEA MOLLISSIMA* Blume. Fagaceae. **Hairy chestnut.**
78650. No. 762. From Hamjong, Chosen. Trees of orchard type and of various ages, up to 15 inches in diameter and not more than 25 feet high, but held back by crude pruning.
78651. No. 765. *Song chung*. A cultivated variety obtained in the market at Heijo, Chosen, and said to have come from An Taik Ri, northeast of Heijo, October 20, 1928.
78652. No. 766. *Duk chung*. A cultivated variety obtained in the market at Heijo, Chosen, October 20, 1928.
78653. No. 767. *Sarinjo*. A cultivated variety obtained in the market at Heijo, Chosen, October 20, 1928, and said to have come from Sun-chung, north of Heijo.
78654. *CASTANOPSIS CUSPIDATA* (Thunb.) Schottky. Fagaceae. **Japanese chinquapin.**
- No. 804. *Shihi*. Obtained at Yoshida, Tajima Mura, Munehata Gun, Fukuoka Ken, from Gengoro Ono, of the Fukuoka Eirinsho, November, 1928.
- For previous introduction and description see No. 78514.
78655. *LITHOCARPUS EDULIS* (Makino) Rehder. Fagaceae.
- No. 803. *Matebashihi*. Obtained at Shinokura Machi, Kasuya Gun, Fukuoka Ken, from Gengoro Ono, of the Fukuoka Eirinsho, November, 1928. An evergreen tree, native to Japan, with ovate-oblong short-pointed entire leaves 3 to 7 inches long and oblong-ovoid acorns an inch long in very shallow cups.
78656. *LITHOCARPUS* sp.
- No. 805. *Komeji*. Obtained at Tanushi Maru, Ukiha Gun, Fukuoka Ken, from the Ukiha Gun Nursery Association, November, 1928.
- 78657 to 78663. *QUERCUS* spp. Fagaceae. **Oak.**
78657. *QUERCUS ACUTA* Thunb. **Japanese evergreen oak.**
- No. 797. December, 1928. *Akagashi*. From the Tokyo University Chiba Ken Forest. A small evergreen tree, native to Japan, with oblong undulate-margined leaves 3 to 6 inches long and pubescent acorn cups with the scales arranged in concentric rings.
- For previous introduction see No. 78165.
78658. *QUERCUS ACUTISSIMA* Caruthers. **Bristletooth oak.**
- No. 747. October, 1928. Obtained at Duk Chung, east of Keijo, Chosen. A handsome hardy tree up to 50 feet high, with half-evergreen obovate to oblong sharp-pointed leaves, 5 to 7 inches long, having serrate bristle-pointed margins. The cup, which covers about two-thirds of the acorn, has long-spreading recurved scales. Native to northeastern Asia.
- For previous introduction see No. 76752.

78617 to 78663—Continued.

78659. *QUERCUS DENTATA* Thunb.
Daimyo oak.

No. 759. *Kashiwa*. Collected at Shimo Teine, Teine Mura, Sapporo Gun, Hokushu. A large tree, native to Chosen and northern and western China, 75 to 80 feet tall. The obovate-sinuate lobed leaves, dark green above and grayish tomentose beneath, are 10 to 12 inches long and 9 inches wide, and the ovoid acorns, an inch wide, are about half covered by the cup which has lanceolate spreading scales.

For previous introduction see No. 76753.

78660. *QUERCUS GLAUCA* Thunb.
Blue Japanese oak.

No. 799. *Ara gashi*. December, 1928. From the Tokyo University Chiba Ken Forest. A handsome evergreen tree, native to Japan, 45 feet high, with ovate-dentate leaves 3 to 5 inches long, lustrous above and glaucous beneath. The ellipsoid acorns, nearly an inch long with saucer-shaped cups, have five to seven concentric silky pubescent rings.

For previous introduction see No. 76754.

78661. *QUERCUS MONGOLICA GROSSESERATA* (Blume) Rehd. and Wils.

No. 743. *Nara, mizunara*. Collected in the Yamaura Kwonita National Forest, Iwato Mura, Nishi Usuki Gun, Miyazaki Ken. This oak is said to be the most important forest tree of Japan, attaining a height of 100 feet and a girth of 12 feet. The wood is durable and for a hardwood easily worked, approximating for furniture the best European and American oaks.

For previous introduction see No. 76478.

78662. *QUERCUS MYRSINAEFOLIA* Blume.

No. 798. *Shira gashi*. December, 1928. From the Tokyo University Chiba Ken Forest. A handsome evergreen oak, native to Japan, 30 to 40 feet high, with lanceolate-serrate leaves, 3 to 5 inches long, smooth and shining above and covered with a whitish bloom underneath. The ovoid acorns, nearly an inch long and one-third covered by the smooth cup, are borne in short spikes.

For previous introduction see No. 78166.

78663. *QUERCUS STENOPHYLLA* (Blume) Makino.

No. 796. *Urajiro gashi*. December, 1928. From the Tokyo University Chiba Ken Forest. An oak, native to Japan, with narrowly lanceolate long-pointed leaves 2 to 6 inches long.

For previous introduction see No. 78321.

78664 to 78671. *ACACIA* spp. Mimosa-ceae.

From Dundas, New South Wales, Australia. Seeds presented by Herbert J. Rumsey, through John McLaren, Superintendent of the Golden Gate Park, San Francisco, Calif. Received January 15, 1929.

78664. *ACACIA ASPARAGOIDES* A. Cunn.

78664 to 78671—Continued.

A glabrous rigid Australian shrub with nearly terete branches, thick rigid spreading linear sharp-pointed phyllodes nearly an inch long, and solitary globular heads of small flowers.

78665. *ACACIA BAKERI* Maiden.

A large forest tree of New South Wales, up to 160 feet high, with sessile, broadly lanceolate phyllodes about 4 inches long and pale-yellow flowers in loose panicles.

78666. *ACACIA DECURRENS PAUCIGLANDULOSA* F. Muell.

A form of the green wattle with fewer glands on the petioles and with softer pubescence than the usual form.

For previous introduction see No. 75585.

78667. *ACACIA ELONGATA* Sieber.

A tall handsome shrub with drooping angular branchlets, linear falcate 3-nerved phyllodes 4 to 6 inches long, and globose heads of yellow flowers. Native to Australia.

For previous introduction see No. 48042.

78668. *ACACIA HETEROCLITA* Meissn.

A small erect shrub 3 to 4 feet high, native to Western Australia, with the young shoots minutely pubescent, linear to lanceolate sharp-pointed phyllodes 2 to 3 inches long, and globular heads of small flowers.

78669. *ACACIA PUBESCENS* R. Br.
Hairy wattle.

The branches and leaf stems of this Australian shrub are covered with spreading hairs. The compound leaves are made up of 3 to 10 pairs of branches each bearing 6 to 20 pairs of small linear leaflets. The small flower heads are in slender racemes gathered into large panicles at the ends of the branches.

78670. *ACACIA SUAVEOLENS* (J. E. Smith) Willd.

An Australian shrub up to 6 feet high, with linear to lanceolate phyllodes and small heads of yellow flowers in axillary racemes.

For previous introduction see No. 75609.

78671. *ACACIA TRINERVATA* Sieber.

A tall shrub, native to New South Wales, with angular branches, thick rigid spreading linear phyllodes an inch long, and solitary heads of numerous small flowers.

78672. *PSIDIUM GUAJAVA* L. Myrtaceae.
Guava.

From Papeite, Tahiti, Society Islands. Seeds obtained from Marcel Frogier, through Gerrit P. Wilder, Honolulu, Hawaii. Received January 23, 1929.

A variety which is considered the finest of the cultivated guavas. The fruits vary in size from 2 to 3½ inches in diameter, with pale yellowish white skin dotted with fine red spots and solid white flesh with small seeds.

For previous introduction see No. 76015.

78673 and 78674.

From Boloven Plateau, Laos, French Indo-China. Fruits presented by G. Ricau, Botanic Garden. Received January 25, 1929.

78673. *MALUS* sp. Malaceae. Apple.

An apple tree about 25 feet high, growing in red soil in forests at an altitude of about 1,300 feet.

78674. *PYRUS* sp. Malaceae. Pear.

A semiaquatic pear which is said to grow in shallow water part of the year, at an altitude between 2,500 and 4,000 feet.

78675. *VITIS* sp. Vitaceae. Grape.

From Tsinan, Shantung, China. Cuttings presented by Dr. Philip S. Evans, Jr., Shantung Christian University. Received January 29, 1929.

A grape which fruits through the late summer and autumn. The first bunches ripen in August when only about half the bunches are half grown and there are many blossoms as well. It resembles the Niagara, although it often has an elongated shape. This grape, which is not unusual in quality, has a rather thick skin and a slight spicy flavor.

78676 to 78685.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received January 19, 1929.

78676. *CALLITRIS QUADRIVALVIS* Vent. Pinaceae. Arar-tree.

An evergreen shrub or small tree somewhat like *Cupressus* in habit, native to the mountains in northern Africa, with hard durable fragrant wood, spreading jointed branches, very small flattened leaves, and 4-sided cones.

78677. *DANAE RACEMOSA* (L.) Moench. (*Ruscus racemosus* L.). Convallariaceae. Alexandrian laurel.

A much-branched evergreen Persian shrub 3 to 4 feet high, with alternate lanceolate leaflike cladodes 4 inches long, terminal racemes of small white flowers, and globose red berries.

78678. *DAPHNE GNIDIUM* L. Thymelaeaceae.

An evergreen shrub 2 feet high, native to southern Europe, with linear-lanceolate glabrous leaves and terminal clusters of yellowish-white fragrant flowers.

78679 to 78682. *ERICA* spp. Ericaceae. Heath.78679. *ERICA ARBOREA* L.

An evergreen shrub or small tree up to 20 feet high, native to the Mediterranean region, with small glabrous leaves and large pyramidal panicles of fragrant nearly white flowers.

78680. *ERICA CINEREA* L. Twisted heath.

An evergreen European shrub 1 to 2 feet high, with very small lustrous linear leaves and umbels or terminal racemes of bell-shaped rosy purple flowers.

78681. *ERICA SCOPARIA* L. Besom heath.

An evergreen southern European shrub 10 feet high, with upright

78676 to 78685—Continued.

branches, small lustrous dark-green linear leaves in whorls of three or four, and long cylindrical spikes of greenish-white flowers.

78682. *ERICA* sp.

A mixture of various species of *Erica* from southern Africa, which are shrubs with small leaves and racemes of white, rosy, or yellow flowers.

78683. *MERATIA PRAECOX GRANDIFLORA* (Lindl.) Rehd. and Wils. Calycanthaceae. Wintersweet.

A variety with much larger and brighter colored flowers than the usual form, which is a Chinese shrub up to 10 feet high with ovate leaves 6 to 10 inches long and producing yellow flowers an inch across striped with purplish brown and opening in mild seasons throughout the winter.

78684. *RUSCUS ACULEATUS* L. Convallariaceae. Butchersbroom.

A rigid evergreen European shrub 2 to 4 feet high, with grooved branching stems and dark-green ovate leaflike cladodes over an inch long bearing one or two small white flowers in the middle of the upper surface, which are followed by globose or ovoid bright-red berries nearly half an inch in diameter.

78685. *SKIMMIA JAPONICA* Thunb. (*S. oblata* T. Moore). Rutaceae. Japanese skimmia.

A dense evergreen Japanese shrub 3 to 5 feet high, with yellowish-green leaves 6 inches long crowded at the ends of the branchlets, panicles of small yellowish-white flowers, and bright-red berries a quarter of an inch through.

78686 to 78696.

From Vancouver, British Columbia, Canada. Seeds presented by Prof. John Davidson, department of botany, University of British Columbia. Received January 17, 1929.

78686. *ALLIUM WATSONI* Howell. Liliaceae. Onion.

A low bulbous plant, native to northwestern North America, with a slender narrowly margined scape 3 inches high, linear leaves 6 inches long, and a dense umbel of rose-colored flowers.

78687 to 78689. *ERYTHRONIUM* spp. Liliaceae.78687. *ERYTHRONIUM GRANDIFLORUM* Pursh. Glacierlily.

A herbaceous perennial, native to northwestern North America, with an erect bulb, two broadly lanceolate plain green leaves 6 inches long, and a scape 1 to 2 feet high bearing three to five bright-yellow flowers with recurved segments and purple anthers.

78688. *ERYTHRONIUM GRANDIFLORUM ALBIFLORUM* Hook. Troutlily.

A herbaceous perennial, native to northwestern North America, with the two leaves mottled in white and brown; the recurved segments of the flower are creamy white.

78689. *ERYTHRONIUM GRANDIFLORUM PARVIFLORUM* S. Wats.

A herbaceous perennial, native to northwestern North America, with

78686 to 78696—Continued.

broadly lanceolate plain leaves and bright-yellow flowers with white anthers.

78690. LILIUM PARVIFLORUM (Hook.) Holzinger. Liliaceae. Panther lily.

This lily, native to northwestern North America, closely resembles the leopard lily, *L. pardalinum*, but the flowers, of the same bright yellow with purplish spots, are smaller and are usually solitary or only two or three together.

78691 to 78695. PENTSTEMON spp. Scrophulariaceae. Beardtongue.

78691. PENTSTEMON CONFERTUS Douglas.

A herbaceous perennial, 2 feet high, native to Oregon and northern California, with nearly entire lanceolate to linear leaves and a narrow interrupted spike of cream-white to sulphur-yellow flowers.

78692. PENTSTEMON CONFERTUS CAERULEO-PURPUREUS A. Gray.

A variety of the preceding with flowers blue-purple to violet.

78693. PENTSTEMON DIFFUSUS Douglas.

A herbaceous perennial, native to northwestern North America, with diffuse stems 2 feet high, lanceolate to cordate-ovate deeply serrate leaves, and a leafy cluster of light-purple 2-lipped flowers.

78694. PENTSTEMON MENZIESII Hook.

A herbaceous perennial with a woody base, native to Washington and British Columbia. The stems are less than a foot high, the thick leaves are obovate, and the violet-blue to purple flowers, an inch long, are borne in a spreading raceme.

78695. PENTSTEMON OVATUS Douglas.

A herbaceous perennial, native to northwestern North America, with a slender but erect stem 4 feet high, ovate thin serrate bright-green leaves, and lax clusters of 2-lipped blue flowers changing to purple.

78696. SISYRINCHIUM CALIFORNICUM Ait. Iridaceae.

A herbaceous perennial with linear leaves a foot long, a leafless broadly winged stem, 1½ feet high, with a cluster of three to six brown-lined yellow flowers half an inch long. Native to California.

78697 to 78743.

From Deli Valley, Mishmi Hills, Assam, India. Seeds collected by Capt. F. Kingdon Ward and presented by Maj. Lionel de Rothschild, London, England. Received January 19, 1929.

78697. ABELIA sp. Caprifoliaceae.

No. 8180. May 8, 1928. *Golden Abelia*. A small shrub with long, drooping racemes of bright-yellow flowers. Only one plant was found in the dense thickets on sheltered cliffs at an altitude of 6,000 feet.

78698. ACONITUM sp. Ranunculaceae. Aconite.

No. 8724. October 1, 1928. An ornamental herbaceous perennial, 2 to 4 feet high, growing on alpine meadow slopes at an altitude of 12,000 feet.

78697 to 78743—Continued.

78699. ANDROSACE sp. Primulaceae.

No. 8565. August 23, 1928. A small herbaceous perennial resembling *Androsace henyri*, 6 inches high, bearing large many-flowered heads. It grows in dense undergrowth on the banks of gullies in the middle of the rain forest, above an altitude of 10,000 feet.

78700. ARISAEMA sp. Araceae.

No. 8085. April 12, 1928. A large herbaceous perennial closely related to the Indian turnip, with papery, colorless spathe which are striped with purple. It grows in the temperate rain forest at an altitude of 7,000 feet.

78701. BUDDLEIA sp. Loganaceae.

No. 8559. August 23, 1928. A floppy undershrub, 2 to 3 feet high, growing on steep, well-shaded slopes, among bamboos or in gullies among subalpine flowers, at an altitude of 11,000 feet. The leaves are very large, and the fragrant flowers are cream white with orange centers.

78702. CALTHA sp. Ranunculaceae.

No. 8616. August 28, 1928. A herbaceous perennial about a foot high, with an abundance of magenta flowers. It grows in alpine gullies and on alpine meadow slopes at an altitude between 11,000 and 12,000 feet.

78703. BRYOCARPUM HIMALAICUM Hook. f. and Thoms. Primulaceae.

No. 8236. May 23, 1928. A herbaceous perennial about 2 feet high, with solitary nodding yellow flowers which appear before the large leaves. It grows under bamboos or in an *Abies* forest, on steep slopes, at altitudes between 10,000 and 11,000 feet.

For previous introduction see No. 41417.

78704. DICENTRA sp. Papaveraceae.

No. 8649. September 17, 1928. An annual climbing vine with sea-green leaves and bunches of yellow flowers, borne in the autumn, which are followed by red, pear-shaped fruits. It grows in the forest at an altitude between 8,000 and 9,000 feet.

78705. GAULTHERIA sp. Eriaceae.

No. 8725. October 26, 1928. A shrub 3 to 6 feet high, with crowded spikes of white flowers and an abundance of black berries which have a white bloom. It grows on open, grass-clad slopes along the edge of the forest at altitudes between 6,000 and 7,000 feet.

78706. HEDYCHUM sp. Zinziberaceae.

No. 8483. July 24, 1928. A strong-growing herbaceous perennial, 2 feet high, with purplish leaves and white flowers from a creeping rhizome. It grows at an altitude of 6,000 feet.

78707. HYPERICUM sp. Hypericaceae.

No. 8444. July 12, 1928. An ornamental shrub, with an abundance of small bright-yellow flowers, growing in open stony pastures near cultivated land at an altitude of 5,000 feet.

78708. LYSIMACHIA sp. (*Nummularia* sp.). Primulaceae.

No. 8574. August 23, 1928. A semi-erect herbaceous perennial nearly a foot high, bearing an abundance of yellow

78697 to 78743—Continued.

flowers up the leafy stems. It is a good rock-garden plant, with a prolonged flowering period, and is found on rocks and banks in deep gullies, keeping as much as possible in the open, but not intolerant of shade.

78709. *NOMOCHARIS* sp. Liliaceae.

No. 8370. June 26, 1928. A lily-like perennial about a foot high, bearing, during June, solitary nodding dull-red flowers. It is found on alpine meadow slopes, in tenacious loam, and also under bamboos, at an altitude of 12,000 feet.

78710 to 78713. *PRIMULA* spp. Primulaceae. Primrose.78710. *PRIMULA PRENANTHA* Balf. and Smith.

No. 8262. May 21, 1928. A herbaceous perennial, with small light-yellow flowers, growing on subalpine grass slopes where bamboos give shelter, at an altitude of 11,000 feet.

78711. *PRIMULA* sp.

No. 8282. June 4, 1928. A bright yellow-flowered herbaceous perennial, about a foot high, with leaves covered with cream-colored meal. It is found from the upper *Abies* forest to the alpine region, between 12,000 and 13,000 feet altitude, where it grows in black loam among boulders or scrub rhododendrons.

78712. *PRIMULA* sp.

No. 8295. June 5, 1928. A herbaceous perennial with leaves often turning scarlet in the autumn and large compact heads of faintly fragrant, bright purplish-rose flowers which have a yellow or crimson eye. It is a rather massive perennial bearing an abundance of foliage from which rise as many as half a dozen scapes. It grows in steep rocky gullies in the *Tsuga* and *Rhododendron* forest, at an altitude of 10,000 feet, and requires deep shade and an abundance of water.

78713. *PRIMULA* sp.

No. 8406. July 2, 1928. A herbaceous perennial, 6 inches high, which is a hairy and not very mealy alpine species scattered widely over the turf slopes at an altitude of 12,000 feet. It bears small heads of fragrant violet flowers.

78714 to 78737. *RHODODENDRON* spp. Ericaceae.78714. *RHODODENDRON* sp.

No. 8045. April 11, 1928. A small smooth-barked forest tree with very large leaves and pink-flushed buds which become large white fragrant flowers. It grows at altitudes between 6,000 and 7,000 feet.

78715. *RHODODENDRON* sp.

No. 8052. April 11, 1928. A species found at an altitude between 7,000 and 8,000 feet, bearing white fragrant flowers, banded with rose-purple on the reverse side, during March and April. It is like *Rhododendron bullatum*.

78716. *RHODODENDRON* sp.

No. 8069. April 11, 1928. A large tree of the rain forest, growing at an altitude between 8,000 and 9,000 feet, with leaves which are silvery beneath.

78697 to 78743—Continued.

78717. *RHODODENDRON* sp.

No. 8101. April 20, 1928. A small evergreen bushy shrub with masses of butter-yellow flowers. It grows in thickets, but enjoys full exposure. The flowers are paler than those of *Rhododendron aureum*, but it is a much better-looking shrub.

78718. *RHODODENDRON* sp.

No. 8113. April 22, 1928. A small rather lanky or scraggy shrub growing on rock outcrops and cliffs, or epiphytically, and in shady places it is more compact. The flowers, in trusses of four to six, are fairly large and brilliant crocus yellow. This shrub is found at an altitude between 7,000 and 8,000 feet.

78719. *RHODODENDRON* sp.

No. 8130. April 24, 1928. A fine gnarled tree with huge leaves characterized by a bright-yellow midrib and immense trusses of cream flowers. It is found at an altitude between 8,000 and 9,000 feet.

78720. *RHODODENDRON* sp.

No. 8163. May 5, 1928. A spreading gnarled medium-sized tree with leaves which are cinnamon-colored felt beneath and silver white above when young and big trusses of cream flowers. It is found at an altitude of 9,000 feet.

78721. *RHODODENDRON* sp.

No. 8165. May 5, 1928. A small shrub abundant on open rock ridges and in thickets, with bright-purple flowers in loose trusses of six to nine. It recalls *Rhododendron tephropeplum*, but has more and larger flowers in the truss. It grows at an altitude between 8,000 and 9,000 feet.

78722. *RHODODENDRON* sp.

No. 8203. May 19, 1928. A small gnarled smooth-barked tree growing at an altitude between 9,000 and 10,000 feet. The small purple flowers with dark spots are in large trusses.

78723. *RHODODENDRON* sp.

No. 8206. May 19, 1928. A small shrub, usually high up on *Tsuga* or *Abies* trees, and sometimes found on rocks, at altitudes between 9,000 and 10,000 feet. The large flowers are solitary or more usually in two's, and rarely in three's. They are white, flushed rose-purple on the reverse, and very fragrant. It is one of the most beautiful species and is probably fairly hardy. The highest specimens do not flower until June.

78724. *RHODODENDRON* sp.

No. 8208. May 19, 1928. A small or large bush bearing during June and July flame-colored, narrow tubular flowers in large aggregate bunches of axillary trusses.

78725. *RHODODENDRON* sp.

No. 8225. May 22, 1928. An epiphyte growing in the *Abies* forest at an altitude between 10,000 and 12,000 feet. The leaves are bright silver beneath, and the bright-yellow flowers are in pairs.

78697 to 78743—Continued.

78726. RHODODENDRON sp.

No. 8250. May 30, 1928. A bushy shrub with handsome young foliage and persistent leaf bud scales which are cherry red. The leaves are large, and the bright brick-red flowers are in large compact trusses. It is scattered in thickets at an altitude of 11,000 feet.

78727. RHODODENDRON sp.

No. 8251. May 30, 1928. A fair-sized tree with leaves woolly white beneath and large trusses of rose-purple flowers. It grows in the Abies forest and in thickets at an altitude of 11,000 feet.

78728. RHODODENDRON sp.

No. 8256. June 4, 1928. A species with glaucous leaves and pale-yellow flowers with a crimson flush at the base. It grows in dense thickets in the alpine region at an altitude between 12,000 and 13,000 feet.

78729. RHODODENDRON sp.

No. 8257. June 10, 1928. A small, aromatic bushy shrub growing in thickets on the edge of the alpine region, at altitudes between 11,000 and 12,000 feet. The leaves are whitened beneath, and the dull plum-purple flowers are in loose umbels.

78730. RHODODENDRON sp.

No. 8258. May 30, 1928. A bush with an ascending trunk and loose umbels of bright crimson-scarlet flowers which have coal-black glands at the base. It grows in the Abies forest, along the ridge, at an altitude of 12,000 feet.

78731. RHODODENDRON sp.

No. 8259. May 30, 1928. A small bush with yellowish flowers which appear before the leaves. It is found on alpine meadow slopes at an altitude of 12,000 feet.

78732. RHODODENDRON sp.

No. 8288. June 4, 1928. A shrub, 3 to 5 feet high, forming much of the scrub on the northern slopes in this alpine region at altitudes between 12,000 and 13,000 feet. The small leaves are dark green above and rust red beneath, and the cream-colored flowers, sometimes flushed with pink, are heavily speckled rose purple.

78733. RHODODENDRON sp.

No. 8300. June 6, 1928. A small tree growing in the Tsuga and Rhododendron forest at an altitude of 10,000 feet. The leaves have a very thin closely woven rust-red felt, and the fairly large trusses of flowers are probably purple.

78734. RHODODENDRON sp.

No. 8326. June 14, 1928. A small epiphytic undershrub with tiny sickly yellow flowers. The previous year's leaves probably turn bright scarlet in the autumn, as also do the fruits. It grows in the rain forest at altitudes between 10,000 and 11,000 feet.

78735. RHODODENDRON sp.

No. 8522. August 15, 1928. A lanky shrub 6 to 8 feet high in the shade, but it is more common in the open, on gneiss rocks, where it is a

78697 to 78743—Continued.

compact shrublet 1 to 2 feet high. It grows at altitudes between 7,000 and 8,000 feet.

78736. RHODODENDRON sp.

No. 8545. August 20, 1928. A rather late-flowering species growing on exposed ridges facing south, where it is a small shrub. It is found at an altitude of 8,000 feet.

78737. RHODODENDRON sp.

No. 8546. August 20, 1928. A small slim shrub, sometimes 10 to 12 feet high, growing in thickets and among scrub on the southern slope, at an altitude of 9,000 feet.

78738. ROSA sp. Rosaceae. Rose.

No. 8626. September 2, 1928. A small shrub with smooth scarlet fruits, scattered in the Abies and Rhododendron forest at an altitude of 11,000 feet.

78739. ROSA sp. Rosaceae. Rose.

No. 8681. October 1, 1928. A dwarf very spiny undershrub growing on alpine slopes at an altitude of 12,000 feet. The smooth, red, flask-shaped fruits are smaller than those of No. 8626 (No. 78738).

78740. SCHEFFLERA sp. (Heptapleurum sp.). Araliaceae.

No. 8652. September 19, 1928. A moderate-sized palmlike tree, 20 feet high, usually much branched at the top, with large shining green, digitate leaves, long spikes of fragrant cream-colored flowers, and black fruits. It grows in the lower rain forest at an altitude of 7,000 feet.

78741. SCHIZANDRA sp. Magnoliaceae.

No. 8665. September 22, 1928. A large woody climber with scarlet fruits on pedicels 6 inches long. It grows in the forest at an altitude of 10,000 feet.

78742. VIOLA sp. Violaceae. Violet.

No. 8563. August 23, 1928. A species, with unusual foliage growing on earth banks in the middle forest, where there is no sun, at altitudes between 9,000 and 10,000 feet.

78743. (Undetermined.)

No. 8096. April 17, 1928. A small tree with masses of intensely fragrant yellowish flowers. It is scattered in the lower rain forest at altitudes between 4,000 and 5,000 feet.

78744. CASTANEA MOLLISSIMA Blume. Fagaceae. Hairy chestnut.

From Fa Hua Ssu Temple, near Peiping, Hopei, China. Seeds obtained through Peter Liu, Peiping. Received January 29, 1929.

Tiger paw chestnut.

For previous introduction see No. 76087.

78745. HIBISCUS SABDARIFFA L. Malvaceae. Roselle.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 30, 1929.

Rizal. A distinctive and attractive variety, with waxy pink calyxes, which originated at Novaliches, Rizal, and is apparently a spontaneous hybrid between the Victor, a red, and Archer, a white variety.

78746. EULALIA FULVA (R. Br.) Kuntze
(*Pollinia fulva* Benth.). Poaceae.

Sugar grass.

From Sydney, New South Wales, Australia. Seeds presented by G. D. Ross, Under-secretary, Department of Agriculture. Received January 28, 1929.

A fine-stemmed leafy grass, 3 feet high, native to Australia. It is said to be drought resistant and of good seeding habit. Because of its flavor it is called "sugar grass" in parts of Australia, and cattle are very fond of it.

For previous introduction see No. 41754.

78474 and 78748. GOSSYPIUM spp. Malvaceae. Cotton.

From Bangkok, Siam. Seeds presented by Dr. A. Kerr, director of the botanical section of the Ministry of Commerce and Communications. Received January 30, 1929.

78747. GOSSYPIUM sp.

A perennial cotton cultivated about Bangkok. It is not grown as a regular crop, and the floss is used only for making string.

78748. GOSSYPIUM sp.

A perennial cotton grown from seeds collected on Kaw Samui, one of the islands in the Gulf of Siam.

78749 to 78816.

From Tiflis, Caucasus, Russia. Seeds presented by the director, Botanic Garden. Received February 4, 1929.

78749 to 78752. AEGILOPS spp. Poaceae. Grass.

78749. AEGILOPS CYLINDRICA Host.

78750. AEGILOPS CYLINDRICA Host.

78751. AEGILOPS TAUSCHII Coss.

78752. AEGILOPS TRIUNCIALIS L.

A thickly branched annual grass with ascending stems and flat rough leaves. It is native to dry places in the Mediterranean region.

78753 to 78755. AGROPYRON spp. Poaceae. Grass.

78753. AGROPYRON DAGNAE Hort.

No place of publication for this name has been found.

The seeds closely resemble those of *Agropyron cristatum*.

78754. AGROPYRON ORIENTALE (L.) Roem. and Schult.

An annual, much-branched grass, prostrate-ascending in habit, native to sandy places in Asia Minor and Turkestan.

For previous introduction see No. 64091.

78755. AGROPYRON REPENS GLAUDESCENS Paterm.

Said to be a glaucescent form of the well-known quack grass. The seeds are more like those of *Agropyron cristatum*.

78756. AMYGDALUS GEORGICA Desf. (*Prunus nana georgica* DC.). Amygdalaceae.

78749 to 78816—Continued.

A hardy bush, native to southern Russia, which closely resembles *Amygdalus nana*, differing in its darker-colored flowers and smaller leaves.

For previous introduction see No. 67905.

78757. AMYGDALUS FENZLIANA × COMMUNIS. Amygdalaceae.

A cross between the almond (*Amygdalus communis*) and a closely related species from the Caucasus. The latter is a low, sometimes spiny tree, with narrow, grayish green leaves, small whitish flowers, and fruits with scarcely any flesh.

78758. ANDROPOGON INTERMEDIUS CAUCASICUS (Trin.) Hack. Poaceae. Grass.

78759. ANDROPOGON ISCHAEMUM L. Poaceae. Grass.

78760. ARTHRAXON HISPIDUS CRYPTATHERUS (Hack.) Honda. Poaceae. Grass.

78761 to 78770. ASTRAGALUS spp. Fabaceae.

78761. ASTRAGALUS AMMOPHILUS Kar. and Kir.

A leguminous annual with branched prostrate stems, small pinnate leaves, and minute flowers in small heads. It is native to the mountains of Persia and Turkestan.

78762. ASTRAGALUS BRACHYCARPUS Bieb.

A leguminous perennial, a foot or more high, with purple flowers, nearly an inch long, in lax ovoid racemes. It is native to the Caucasus Mountains.

78763. ASTRAGALUS FALCATUS Lam.

An upright perennial, nearly 2 feet high, with yellowish flowers in an elongated cluster. It is native to southern Russia and Asia Minor.

For previous introduction see No. 66517.

78764. ASTRAGALUS GLYCYPHYLLUS L.

A prostrate, spreading herbaceous perennial, native to Asia Minor.

78765. ASTRAGALUS HAMOSUS L.

An annual gray-green hairy plant, with prostrate or ascending stems 8 inches to a foot long. It is native to sunny places in the Mediterranean countries.

For previous introduction see No. 66540.

78766. ASTRAGALUS KADSHORENSIS Bunge.

A leguminous perennial, native to the Caucasus, with short ascending stems 2 to 3 inches high, pinnate leaves, and rather large light bluish-violet flowers.

78767. ASTRAGALUS MOLLIS Bieb.

A nearly stemless perennial with hairy pinnate leaves and yellow flowers in cylindrical racemes. It is native to the arid deserts of Armenia and Caucasus.

78749 to 78816—Continued.

78768. *ASTRAGALUS MONSPESSULANUS* L.

A leguminous perennial with a woody rootstock, a very short stem, and a rosette composed of bright-green compound leaves intermingled with the remains of the previous year's leaves. The small flowers are purplish violet. Native to southern Europe.

78769. *ASTRAGALUS PSEUDONOBRYCHIS* Hort.

A legume of possible value as a green manure.

78770. *ASTRAGALUS SANGUINOLENTUS* Bieb.

A perennial leguminous plant with small pinnate leaves and small white flowers, with red keels, in headlike racemes. It is native to the Caucasus Mountains.

78771. *BRACHYPODIUM SYLVATICUM* (Huds.) Beauv. Poaceae. Grass.

A grass native to the woods and thickets throughout Europe and eastward through northern Asia to the Provinces of Sinkiang and Hupeh, China.

For previous introduction see No. 53134.

78772. *BROMUS ALBIDUS* Bieb. Poaceae. Grass.78773. *BROMUS RUBENS* L. Poaceae. Grass.78774 to 78776. *CORONILLA* spp. Fabaceae.78774. *CORONILLA CAPPADOCICA* Willd.

A yellow-flowered leguminous perennial with ascending stems and pinnate leaves. Native to rocky places in Asia Minor.

78775. *CORONILLA SCORPIOIDES* (L.) Koch.

An erect yellow-flowered herbaceous perennial, about 8 inches high, native to the Mediterranean countries.

For previous introduction see No. 69850.

78776. *CORONILLA VARIA* L. Crownvetch.

A prostrate or ascending leguminous perennial, about 4 feet high, with a thick rootstock, compound leaves, and pinkish flowers in dense umbels. It is native to central Europe.

For previous introduction see No. 53607.

78777. *CYNODON DACTYLON* (L.) Pers. Poaceae. Bermuda grass.78778. *ECHINARIA CAPITATA* (L.) Desf. Poaceae. Grass.78779. *ERIANTHUS RAVENNAE* (L.) Beauv. Poaceae. Grass.78780. *FESTUCA OVINA SULCATA* Hack. Poaceae. Grass.78781 to 78786. *HORDEUM* spp. Poaceae.78781. *HORDEUM BULBOSUM* L. Grass.78782. *HORDEUM DISTICHON PALMELLA* Harlan. Two-rowed barley.78783. *HORDEUM MURINUM* L. (*H. leporinum* Link). Grass.

78749 to 78816—Continued.

78784. *HORDEUM MURINUM* L. (*H. leporinum* Link). Grass.

Forma *nigracans*.

78785. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.78786. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.78787. *KOELERIA GRACILIS* Pers. Poaceae. Grass.78788. *TULIPA SCHMIDTII* Fomin. Liliaceae. Tulip.

A wild tulip, native to the Caucasus, with a bulb about 2 inches in diameter, oblong-lanceolate obtuse leaves, and red flowers 3 inches long.

78789. *LATHYRUS ROSEUS* Stev. Fabaceae.

An erect much-branched perennial, 2 or 3 feet high, with ovate leaflets and rose-colored flowers. Native to Asia Minor.

78790. *MEDICAGO SATIVA GLUTINOSA* (Bieb.) Urban. Fabaceae.78791. *MEDICAGO SATIVA* L. Fabaceae. Alfalfa.78792. *MELICA MICRANTHA* Boiss. and Hohen. Poaceae. Grass.78793. *MELICA PICTA* Koch. Poaceae. Grass.78794 to 78796. *MELILOTUS* spp. Fabaceae.78794. *MELILOTUS ALBA* Desr. White sweetclover.78795. *MELILOTUS NEAPOLITANA* Ten. Sweetclover.

An annual, mostly upright plant, up to 15 inches high, branched from the base, with obovate to roundish hairy leaflets and small bright-yellow flowers. It is native to the Mediterranean countries.

For previous introduction see No. 43595.

78796. *MELILOTUS OFFICINALIS* (L.) Lam. Sweetclover.78797. *ORYZOPSIS HOLCIFORMIS* (Bieb.) Hack. Poaceae. Grass.

A perennial grass with a thick, short rhizome and stems 3 feet or more high. The panicles are a foot or more long. It is native to southern and southeastern Europe.

For previous introduction see No. 64095.

78798. *ORYZOPSIS PARADOXA VIRESCENS* (Trin.) Richter. Poaceae. Grass.

A perennial, densely caespitose grass with rough stems up to 4 feet high and spreading panicles about 8 inches high. It is native to southern Europe and Asia Minor.

For previous introduction see No. 64096.

78799. *PHLEUM PHLEOIDES* (L.) Karst. (*P. boehmeri* Wibel). Poaceae. Timothy.

A perennial, gray-green, loosely caespitose grass with short, creeping rhizomes

78749 to 78816—Continued.

and stems 1 to 2 feet high. It is native to dry stony places throughout central Europe.

For previous introduction see No. 63992.

78800. PHLEUM PANICULATUM Huds. Poaceae. Grass.

An erect or ascending annual grass, 4 to 16 inches high, native to the Mediterranean countries.

For previous introduction see No. 74171.

78801. PISUM ELATIUS Bieb. Fabaceae. Pea.

A hardy annual, about 5 feet high, with leaves composed of one to three pairs of narrow leaflets and with purple flowers. It is native to the woods and thickets in the alpine regions of Europe.

For previous introduction see No. 67925.

78802 to 78805. POA spp. Poaceae. Grass.

78802. POA ANNUA L.

78803. POA BULBOSA VIVIPARA Koel.

78804. POA LONGIFOLIA PLANIFOLIA Somm. and Lev.

78805. POA NEMORALIS L.

Variety *latifolia*.

78806. PRUNUS CERASIFERA DIVARICATA (Ledeb.) C. Schneid. Amygdalaceae.

The wild form of the myrobalan plum. It is a small spreading tree with more slender branches than the type, smaller flowers, and yellowish fruits about an inch long. Native to Asia Minor.

For previous introduction see No. 43865.

78807. PTEROCARYA FRAXINIFOLIA (Lam.) Spach (*P. caucasica* Meyer). Juglandaceae.

A handsome spreading tree, 60 feet or less high, with attractive dark-green pinnate leaves about a foot long. It is native to the Caucasus and will probably not be hardy north of Massachusetts.

For previous introduction see No. 74596.

78808. TRIFOLIUM CAMPESTRE Schreb. Fabaceae. Clover.

A biennial or annual clover up to 20 inches high, prostrate or ascending, with bright-yellow flowers. It is native to central Europe.

78809 to 78814. TRITICUM spp. Poaceae.

78809. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Common wheat.

78810 and 78811. TRITICUM DURUM Desf. Durum wheat.

78810. Variety *apulicum*.

78811. Variety *hordeiforme*.

78812 and 78813. TRITICUM PERSICUM Aitch. and Hemsl. Persian wheat.

78812. Variety *fuliginosum*.

78813. Variety *rubiginosum*.

78814. TRITICUM TURGIDUM L. Poulard wheat.

78815 and 78816. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Common wheat.

78815. Variety *cinereum*.

78816. Variety *erythrospermum*.

78817. VITIS DAVIDII (Carr.) Foex. Vitaceae. Brier grape.

From Yokohama, Japan. Cuttings purchased from the Yokohama Nursery Co. Received February 13, 1929.

Koshiu. A variety growing in Koshiu, Yamanashi Ken, a region which is very hilly and surrounded by high mountains. The highest temperature in the summer is about 90° F. This is a very late grape and is said to be the best in Japan in both flavor and appearance. The bunches weigh up to 2¼ pounds.

For previous introduction see No. 55098.

78818. CAVANILLESIA PLATANIFOLIA H. B. K. Bombacaceae.

From Summit, Canal Zone. Seeds presented by J. E. Higgins, Plant Introduction Garden. Received May 7, 1928. Numbered in March, 1929.

A Colombian tree up to 100 feet high, with a large thick trunk, smooth pale bark, large shallowly 5-lobed to 7-lobed leaves, and red flowers an inch long. The coarse soft pithlike wood is white or yellowish and is used for making canoes and rafts.

78819 to 78826. AVENA spp. Poaceae. Oats.

From Sydney, New South Wales, Australia. Seeds presented by W. Wenholz, director of plant breeding, Department of Agriculture, Sydney. Received February 12, 1929.

Varieties of oats which have shown resistance to crown rust under field conditions in New South Wales.

78819 and 78820. AVENA BYZANTINA Koch.

78819. Algerian (G'28 A-18).

78820. Algerian (G'28 8a18).

78821. AVENA STRIGOSA Schreb.

Variety *glabrescens*. (G'28 29a₆ [I.28/7639].)

78822. AVENA sp.

Buddah (G'28 17a₁₇).

78823. AVENA sp.

Buddah (single plant No. 991).

78824. AVENA sp.

Mulga (selection 4107 [G'28 21a₁₀]).

78825. AVENA sp.

(*Sunrise* × *Victory*) 9 G'28.

78826. AVENA SATIVA L.

From Ruakura (G'28 15a₁₇).

78827. PHASEOLUS LUNATUS L. Fabaceae. Lima bean.

From China. Seeds presented by Dr. W. H. Dobson, Forman Memorial Hospital, Yeoungkong, Kwangtung, China. Received February 12, 1929.

A variety grown locally.

78828 and 78829. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

From Baghdad, Irak. Seeds presented by J. F. Webster, Inspector General of Agriculture. Received February 13, 1929.

78828. Punjab B 8.

78829. Nyngan 3.

78830. GOSSYPIUM sp. Malvaceae.**Cotton.**

From the Dominican Republic. Seeds presented by Dr. R. Ciferri, Director de la Estación Nacional Agronómica y Colegio de Agricultura. Received February 13, 1929.

Granbolla or *granbola* cotton labeled: "Dominican cotton collection No. 1." This was grown in the dry zone of Monte Cristi, and appraised there as a good indigenous variety. The chief characteristics are a very early maturity of the boll and the small size of the plants.

78831. CASTANEA MOLLISSIMA Blume. Fagaceae. Hairy chestnut.

From Keijo, Chosen. Plants grown from seeds presented by the Director of the Forestry Experiment Station, March 9, 1926. Numbered in January, 1929.

In the endeavor to relieve the situation caused by the rapid disappearance of our native chestnut, due to the ravages of the blight fungus, the Chinese hairy chestnut is being introduced into this country in considerable quantity. The size and quality of the nuts compare rather favorably with our native chestnut, although neither the size of the tree nor the tannin content measure up to those of our native species.

For previous introduction see No. 75754.

78832. ARRACACIA XANTHORRHIZA Bancroft. (Arracacha esculenta DC.). Apiaceae. Arracacha.

From Kingston, Jamaica. Tubers presented by M. S. Goodman, superintendent of the Hope gardens of the Department of Science and Agriculture. Received February 21, 1929.

The arracacha is an herbaceous perennial about 3 feet high, with carrotlike foliage and small umbels of purple flowers. It is native to northern South America. The large fleshy roots are used as food in South America and Central America, being boiled like parsnips or sliced and fried.

For previous introduction see No. 78262.

78833 to 78851. VITIS VINIFERA L. Vitaceae. European grape.

From Sawbridgeworth, Herts, England. Cuttings purchased from Thomas Rivers & Son. Received February 28, 1929.

78833. Alnwick seedling.

78834. Appley Towers. A late black variety of good flavor and keeping qualities.

78835. Diamond Jubilee.

78836. Directeur Tisserand.

78837. Dr. Hogg.

78838. Duke of Buccleuch.

78839. Early Auvergne Frontignan.

78840. Lady Downe's seedling. A large, oval, black variety with sweet, firm flesh richly flavored with a fine aroma. It is said to be one of the best late grapes.

78841. Lady Hastings.

78842. Lady Hutt. A late, round white variety of excellent quality.

78833 to 78851—Continued.

78843. Madresfield Court. A very large black variety with a muscat flavor when quite ripe.

78844. Melton Constable.

78845. Mill Hill Hamburgh.

78846. Mrs. Pearson.

78847. Muscat Champion.

78848. Muscat Hamburg.

78849. Prince of Wales.

78850. Reine Olga. A round, reddish variety.

78851. White Frontignan. A medium-sized, round variety with a high muscat flavor. It is said to be a most abundant bearer.

78852. CANNA EDULIS Ker. Cannaceae. Edible canna.

From Honolulu, Hawaii. Rootstocks presented by J. M. Westgate, Director, Hawaii Agricultural Experiment Station. Received February 26, 1929.

A close relative of the ornamental cannas, cultivated for its edible tubers.

For previous introduction see No. 75858.

78853 and 78854. LILIUM spp. Liliaceae.

From Bengal, India. Seeds purchased from R. B. & D. S. Pradhan, the Chandra Nursery. Received March 2, 1929.

78853. LILIUM GIGANTEUM Wall.

Giant lily.

A lily, native to the Himalayas, with bulbs which grow close to the surface in rich black mold, at altitudes between 7,500 and 9,000 feet, where it is covered with snow from November to April. The smooth hollow stems, 6 to 9 feet high, are sometimes used for musical pipes. The handsome cordate leaves, shining dark green above and paler beneath, are 10 to 12 inches long on petioles of equal length; both become smaller near the apex. In the large white fragrant flowers, often 12 to a raceme, the perianth tube is slightly greenish, and the inner surfaces of the segments are tinged with deep purple.

For previous introduction see No. 77585.

78854. LILIUM WALLICHIANUM Schult. f. Lily.

A lily 4 to 6 feet high, with linear leaves 6 to 9 inches long, and usually solitary creamy waxy white fragrant flowers, 9 inches long, which are golden yellow at the base inside and green outside.

78855. LEYCESTERIA FORMOSA Wall. Caprifoliaceae.

From Gresham, Oreg. Plants presented by the W. L. Crissey Alpine Gardens. Received March 5, 1929.

A handsome ornamental bush, closely allied to the honeysuckles, which is native to the cooler sections of the Himalayas. It is from 6 to 8 feet high, with broadly cordate leaves 5 to 7 inches long, terminal spikes of purplish flowers in the axils of the purplish bracts, and subglobose red-purple berries.

For previous introduction see No. 65261.

78856 to 78870.

From Stevenage, Herts, England. Seeds purchased from Clarence Elliott (Ltd.), Six Hills Nursery. Received February 25, 1929.

78856. AGAPANTHUS AFRICANUS (L.) Hoffmannsegg (Abumon africanum Britton). Liliaceae. African lily.

Variety *Mooreanus*. A robust tuberous-rooted plant reputed to be winter-hardy, 1½ feet high, with short straplike leaves and dark-blue flowers in fair-sized umbels.

78857 to 78862. GENTIANA spp. Gentiana-ceae. Gentian.

78857. GENTIANA GENTIANELLA A. T. Johnson. Stemless gentian.

A stemless European alpine plant which forms a dense carpet of compact tufts of glossy green leaves from which rise large tubular flowers of an amazingly deep blue.

78858. GENTIANA ASCLEPIADEA L. Milkweed gentian.

A comparatively robust subalpine species forming clumps of vigorous stems up to 3 feet high with opposite ovate leaves. In late summer it produces from the upper axils almost sessile trumpet-shaped flowers of sapphire blue which weigh down the arching stalks. There is some variation in color from seed, which germinates freely and produces flowering plants in about three years. The plant is said to be indifferent as to whether the soil is alkaline or not.

78859. GENTIANA BAVARICA L.

A difficult species requiring conditions similar to those of moist alpine meadows for success. It forms compact tufts of stout stems about 3 inches high with yellow-green boxlike leaves and flowers somewhat like those of *Gentiana verna*, with five large lobes, but of a velvety dark-blue color and produced much later in the summer. It is said to be indifferent to limestone or granite soils provided it has the proper moist turfy soil.

78860. GENTIANA LAGODECHIANA Hort.

A dwarf form of *Gentiana septemfida*, with deeper blue flowers and prostrate habit.

78861. GENTIANA SEPTEMFIDA Pall.

An Asiatic gentian which somewhat resembles *Gentiana asclepiadea*, requiring similar conditions. It makes spreading clumps up to 12 inches high with opposite ovate leaves and heads of wide-mouthed trumpet-shaped blue flowers in late summer. It varies considerably in habit and flower color, but all forms do well in peaty loam with ample but not stagnant water supply.

78862. GENTIANA VERNA L.

This is the gentian of the Alps, difficult in cultivation unless provided with peaty soil filled with sharp sand, a liberal supply of coarse broken stone, perfect underdrainage, and a constant supply of moisture in summer. It is a social plant and should be grown with other plants to simulate an alpine turf, where it will produce vigorous clumps of low shoots, gray-green foliage, and, in early summer, myriads of starry flowers of indescribable blue.

78856 to 78870—Continued.

78863. IRIS SENTENISII Janka. Iridaceae.

A beardless iris of the same general type as *Iris graminea* with tufted evergreen leaves about 12 inches high and flower stalks little higher than the leaves. Flowers blue purple as in *I. graminea* with red purple on the style branches and hafts. Native to southeastern Europe and Asia Minor.

78864. LILIUM RUBELLUM Baker. Liliaceae. Rubellum lily.

A miniature trumpet lily from Japan with slender green stems spotted with purple, rarely exceeding 2 feet in height, narrow leaves, and one to eight smallish trumpets of rosy white, flushed darker without. It is more delicate than Kramer's lily (*Lilium japonicum*), and, like it, should be grown in a low shrubby undergrowth, where its head can rise to full sun.

78865 to 78868. PRIMULA spp. Primulaceae. Primrose.

78865. PRIMULA sp.

Primrose blue. A blue-flowered horticultural strain of the common garden primrose.

78866. PRIMULA HELODOXA Balf.

A large Chinese primrose, with flower stalks like those of *Primula japonica*, about 3 feet high, with seven or eight tiers of soft-yellow flowers resembling in color and size those of *Jasminum primulinum*. It requires a moist but well-drained site.

78867. PRIMULA POLYANTHA Mill. Polyanthus primrose.

A European primrose, about a foot high, with more or less upright yellow flowers in erect umbels which stand above the long leaves.

78868. PRIMULA SIKKIMENSIS Hook.

This primrose, with flower stalks 1 or 2 feet high and with the habit of *Primula secundiflora*, grows in moist meadows and along stream beds in the Himalayas at an altitude of 13,000 feet. The lanceolate drooping leaves are dull green on both sides, and the rich-yellow flowers, which appear in June, are large and bell-shaped. It should be treated as a short-lived perennial.

78869. SISYRINCHIUM BOREALE (Bickn.) J. K. Henry. Iridaceae.

A semiaquatic plant up to a foot in height, with narrow leaves and yellow flowers on erect pedicels. Native to southwestern Canada and northwestern United States.

78870. SISYRINCHIUM FILIFOLIUM Gaud. Iridaceae.

A herbaceous perennial, 6 inches to a foot in height, native to the Falkland Islands. In cool peaty soil, with good drainage, it spreads into grassy tufts of narrow rushlike leaves, and produces from six to nine stalks with white bell-shaped flowers of exquisite delicacy.

78871 to 78914.

From Newry, Ireland. Seeds purchased from T. Smith, Daisy Hill Nursery. Received February 23, 1929.

78871 to 78874. ALSTROEMERIA spp. Amaryllidaceae.

78871 to 78914—Continued.

78871. *ALSTROEMERIA AURANTIACA* D. Don. Yellow alstroemeria.

A Chilean plant 2 to 4 feet high, with about 50 thin leaves 3 to 4 inches long and bright-yellow flowers, spotted brown within, in a compound umbel.

78872. *ALSTROEMERIA CHILENSIS* Lem. Chilean alstroemeria.

A stout tuberous-rooted plant 2 to 4 feet high, with scattered obovate or spatulate leaves and large rosy red or whitish flowers in pairs. Native to Chile.

78873 and 78874. *ALSTROEMERIA AURANTIACA* D. Don. Yellow alstroemeria.

For previous introduction and description see No. 78871.

78873. Variety *flava*.

78874. Variety *major*.

78875. *RHODODENDRON LUTEUM* Sweet (*Azalea pontica* L.). Ericaceae. Pontic azalea.

A deciduous shrub 8 to 12 feet high, native to the Caucasus region, with hairy oblong leaves and a profusion of funnel-form fragrant yellow flowers 2 inches across.

78876. *BERBERIS BUXIFOLIA* Lam. Berberidaceae. Magellan barberry.

An erect bushy, partially evergreen barberry, 6 to 8 feet high, with hard leathery oblong-obovate leaves up to an inch long, small solitary amber-yellow flowers, and globular dark-purple fruits. Native to southern Chile.

For previous introduction see No. 58099.

78877. *BERBERIS EMPETRIFOLIA* Pers. Berberidaceae. Crow barberry.

A low densely branched barberry, 1 or 2 feet high, with linear, bright-green leaves, and bluish-black fruits. Native to southern South America.

For previous introduction see No. 73532.

78878. *BRUCKENTHALIA SPICULIFOLIA* Reichenb. Ericaceae. Spikeheath.

A low evergreen shrub which forms large tufts of slender shoots with small needle-shaped leaves and short terminal racemes of nodding rosy pink flowers. Requires gritty acid soil. Native to southeastern Europe and Asia Minor.

78879. *BULBINELLA HOOKERI* (Colenso) Cheeseman (*Chrysobactron hookeri* Colenso). Liliaceae.

A New Zealand herbaceous perennial related to the asphodels, varying in size from 2 to 4 inches up to 3 feet. The numerous glaucous-green leaves are linear, and the loose racemes of bright-yellow flowers are on slender scapes up to 10 inches high.

For previous introduction see No. 77547.

78880. *CYANANTHUS LOBATUS* Wall. Campanulaceae.

A herbaceous perennial with more or less prostrate shoots up to 2 feet high with ovate-oblong lobed leaves an inch long and single blue flowers somewhat

78871 to 78914—Continued.

like a periwinkle, sometimes an inch across, appearing in late summer. Native to the Himalayas.

For previous introduction see No. 41615.

78881 to 78892. *CYTISUS SCOPARIUS ANDREANUS* Dipp. Fabaceae. Paradise broom.

The paradise brooms are upright shrubs with slender green branches, small obovate leaflets, and flowers an inch across, of various shades of yellow and red.

78881. *Dragon fly*. Flowers crimson and old gold.

78882. *Fairy*. Flowers cream and pink.

78883. *Firefly*. Flowers scarlet and yellow.

78884. *Fulgens*. Flowers very dark crimson.

78885. A late flowering form.

78886. *Mayfly*. Flowers copper and yellow.

78887. *Moonlight*. Flowers pale cream colored.

78888. *Newry gold*.

78889. *Newry Seedling*. Flowers cream and rose colored.

78890. *Red Admiral*.

78891. *Rosy Moonlight*. Flowers cream colored, tinged with rose.

78892. *Praecox*. Flowers cream colored, appearing early.

78893 to 78899. *ERICA* spp. Ericaceae.

78893. *ERICA ARBOREA* L. Tree heath.

A bushy shrub or small tree, at times 20 feet high, with linear, whorled leaves and very fragrant whitish flowers borne in great profusion in early spring. Native to the Mediterranean countries.

78894. *ERICA CILIARIS* L.

Fringed heath.

A straggling shrub, up to a foot high, with long prostrate stems from which the flowering branches spring erect in dense masses. The oval whorled leaves are green above and whitish beneath. The rosy flowers are in whorls of three on erect terminal racemes 2 to 5 inches long appearing in late summer. Native to southwestern Europe.

78895 to 78897. *ERICA CINEREA* L.

Twisted heath.

For previous introduction and description see No. 78680.

78895. *Rose Queen*. A variety with 6-inch sprays of clear rose-colored flowers.

78896. Variety *purpurea*. A variety with purple flowers.

78897. Variety *rosca*. A variety with rose-colored flowers.

78898. *ERICA STRICTA* Donn.

Corsican heath.

A woody perennial about 2 feet high, with rigid branches, whorled leaves, and rosy purple flowers. Native to Corsica.

78871 to 78914—Continued.

78899. *ERICA VAGANS* L. Cornish heath.

A low European shrub a foot or more high, with its leaves in whorls of four or five, and pale purplish red flowers.

78900 and 78901. *CALLUNA VULGARIS* (L.) Salisb. Heather.

78900. A low evergreen European shrub 1 to 2 feet high, with small ovate leaves and dense racemes 6 to 10 inches long of rosy pink flowers.

78901. Variety *alba*. A white-flowered form.

78902. *GENISTA MONOSPERMA* (L.) Lam. Fabaceae. Bridal-veil broom.

An ornamental leguminous shrub, native to Spain, about 10 feet high with slender grayish branches and small, very narrow leaves. The fragrant white flowers are in short lateral racemes.

78903 to 78906. *GERANIUM* spp. Geraniaceae. Cranesbill.

78903. *GERANIUM ANDRESSI* J. Gay.

A European perennial 1½ feet high which has a brown hairy stem, opposite palmate leaves, and light-rose flowers with the petals fringed at the base.

78904. *GERANIUM LOWII* Hort.

A plant 2 feet high. The bright rose flowers have violet centers.

78905. *GERANIUM SANGUINEUM* L.

Variety *album*. A white-flowered form.

78906. *GERANIUM SESSILIFLORUM* Cav.

A low herbaceous perennial which forms compact tufts of dark-green leaves, among which nestle scores of grayish white flowers. Native to Australia and Chile.

78907 to 78909. *MENZIESIA POLIFOLIA* Juss. Ericaceae.

A low evergreen shrub about 2 feet high, with shining dark-green elliptic leaves half an inch long and flowers in racemes. Native to western Europe.

78907. A purple-flowered variety.

78908. Variety *alba*. A white-flowered variety.

78909. Variety *atropurpurea*. A variety with deep-purple flowers.

78910 and 78911. *MORINA LONGIFOLIA* Wall. Dipsacaceae.

78910. A hairy thistlelike perennial 3 to 4 feet high, with narrow leaves 6 inches long and showy crimson flowers crowded in dense whorls near the top of the stem. Native to the Himalayas at altitudes of 9,000 to 14,000 feet.

78911. Variety *gigantea*. A variety with bright-red stems 5 feet high.

78912. *PRIMULA CAPITATA* Hook. Primulaceae. Primrose.

Variety *mooreanus*. A form of the species with fine round heads of deep-violet flowers, calyxes and stems dusted with white farina, and rosettes of spreading green leaves.

78913. *PRIMULA CHIONANTHA* Balf. and Forr. Primrose.

78871 to 78914—Continued.

A stout herbaceous plant 1 to 2 feet high, with blunt narrowly oval leaves, sulphur-mealy beneath, and clusters of white flowers borne in a many-flowered umbel at the apex of a stout scape. It appears to thrive best in rich moist soil.

78914. *ROSCOEIA PURPUREA* J. E. Smith. Zinziberaceae.

A thick-rooted perennial gingerlike Himalayan plant about a foot high with sessile lanceolate leaves and purple, rarely pale lilac or white flowers, in a sessile spike.

78915 to 78974.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, Regius Keeper, Royal Botanic Garden. Received February 27, 1929.

78915 to 78919. *BERBERIS* spp. Berberidaceae. Barberry.

78915. *BERBERIS ANGULOSA* Wall.

An ornamental shrub from the mountainous sections of northern India, which becomes about 4 feet high, with dark glossy green leaves, large solitary globose orange-yellow flowers half an inch wide, and elliptical, scarlet berries nearly an inch long. The autumnal coloring of the foliage is said to be very striking, and the fruits, less acid than most barberries, are edible.

For previous introduction see No. 65223.

78916. *BERBERIS BREVIPANICULATA* C. Schneid. Shortcluster barberry.

A shrub from western China with tawny glabrous young branches later becoming furrowed and ash-colored, and graceful golden spines. The oblong entire clustered leaves are one-third of an inch long, shining above, distinctly glaucous, and with a bloom. The small graceful flowers are in panicles which are sometimes an inch long.

For previous introduction see No. 52336.

78917. *BERBERIS BUXIFOLIA* Lam. Magellan barberry.

For previous introduction and description see No. 78876.

78918. *BERBERIS UMBELLATA* Wall. Barberry.

A hardy subevergreen Himalayan shrub about 3 feet high, with narrow leaves slightly glaucous beneath, and umbellate racemes of yellow flowers.

For previous introduction see No. 65755.

78919. *BERBERIS WALLICHIANA* DC.

Variety *compacta*. An evergreen shrubby barberry from the Himalayas. It is probably too tender for the North.

78920. *CARMICHAELIA FLAGELLIFORMIS* Colenso. Fabaceae.

A new Zealand shrub about 4 feet high, with stiff slender flat green branches which take the place of leaves and short dense axillary fascicles of purplish flowers borne in great profusion.

For previous introduction see No. 76562.

78915 to 78974—Continued.

78921 to 78925. *ENKIANTHUS* spp. Ericaceae.

78921 to 78923. *ENKIANTHUS CAMPANULATUS* (Miquel) Nicholson.
Redvein enkianthus.

78921. Variety *palibinii*. A Japanese shrub with the branches often verticillate, oblanceolate green leaves, paler beneath, and bell-shaped drooping red flowers in short terminal racemes.

78922. Variety *pallidiflorus*. A shrub with its branches usually verticillate, narrow green leaves, paler beneath, up to 1½ inches long, and sessile terminal racemes of nearly white flowers. Native to Japan.

78923. Variety *recurvus*. A Japanese shrub with the branches usually verticillate, lanceolate papery leaves up to 2 inches long, and pink flowers nearly half an inch across, in terminal clusters.

78924. *ENKIANTHUS CHINENSIS* Franch. (*E. sinohimalaicus* Craib).

A Chinese shrub with elongated branches, lanceolate leaves up to 2 inches long, and salmon-red flowers in shortened racemes.

78925. *ENKIANTHUS CAMPANULATUS* (Miquel) Nicholson.
Redvein enkianthus.

Variety *tectus*. A shrub native to Japan, with usually whorled branches, leaves of variable shape up to an inch long, and sessile racemes of pink flowers.

78926. *FUCHSIA CORYMBIFLORA* Ruiz and Pav. Onagraceae.

A handsome Peruvian fuchsia with large serrate, taper-pointed leaves and deep-red flowers. The plant becomes tall, but requires support in order to attain full height. It is adapted for training on pillars or pergolas in the warmest parts of the United States.

For previous introduction see No. 65174.

78927. *FUCHSIA CORYMBIFLORA* Ruiz and Pav. Onagraceae.

Variety *alba*. A white-flowered form from Peru.

78928 to 78940. *GENTIANA* spp. Gentianeaceae. Gentian.

78928. *GENTIANA ASCLEPIADEA* L.
Milkweed gentian

For previous introduction and description see No. 78858.

78929. *GENTIANA ASCLEPIADEA* L.
Milkweed gentian.

Variety *alba*. A white-flowered form.

78930. *GENTIANA CRASSICAULIS* Duthie.

A glabrous perennial a foot or more high, native to western China, with elliptic leaves and greenish-white flowers, 20 to 30 in a head.

78931. *GENTIANA CRUCIATA* L.
Cross gentian.

One of the less difficult alpine species, making foot-high clumps with handsome dark-green foliage and pro-

78915 to 78974—Continued.

ducing crowded heads of small, 4-lobed blue flowers in late summer and early autumn. Native to Europe and northern Asia.

78932. *GENTIANA LUTEA* L.

A coarse perennial species too large for the rock garden with 3 to 4 foot stems bearing handsome rugose foliage, crowned in late summer in the upper whorls of leaves with crowded clusters of slender-lobed golden-yellow flowers.

78933. *GENTIANA PHLOGIFOLIA* Schott and Kotschy.

A rather easy creeping alpine species, native to central Europe, about 10 inches high, with clustered dark-blue flowers, produced in early summer.

78934. *GENTIANA PURPUREA* L.

A European alpine, with somewhat lax stems up to 3 feet high, narrow leaves, and dull purplish-blue flowers, flushed and spotted yellowish brown within, appearing in late summer.

78935. *GENTIANA SAPONARIA* L.

A hardy herbaceous perennial not exceeding 2 feet in height, with an ascending stem, narrow-pointed opposite leaves and light-blue flowers. Native to eastern North America.

78936 to 78938. *GENTIANA SEPTEMFIDA* Pall.

78936. For previous introduction and description see No. 78861.

78937. Variety *cordifolia*. A variety with heart-shaped leaves. From Turkish Armenia.

78938. Variety *procumbens*. A variety with stems which tend to lie flat on the ground. It is smaller, more delicate than the type and has a tendency to give fewer, usually solitary flowers.

78939. *GENTIANA TIBETICA* King.
Himalayan gentian.

An erect plant 1½ feet high, with oblong-ovate leaves 5 to 7 inches long and small dull yellowish-white axillary flowers an inch long. Native to Tibet; introduced only for comparative study.

78940. *GENTIANA TUBULOSA* Gilg.

An annual gentian from Argentina, with upright stems 6 inches high, narrowly oblong membranous leaves half an inch long, and lilac-blue flowers, usually solitary, about an inch long.

78941. *HEMEROCALLIS PLICATA* Hort. Liliaceae. Daylily.

78942. *PHILADELPHUS INCANUS SARGENTIANUS* Koehne. Hydrangeaceae.
Gray mockorange.

A variety which has yellowish or brownish branches and leaves with the lower surfaces pilose.

78943. *PHILADELPHUS SERICANTHUS REHDERIANUS* Koehne. Hydrangeaceae.
Silk mockorange.

A variety with broadly ovate leaves up to 4½ inches long and 2 inches wide.

78944. *ROSA FOETIDA* Herrmann (*R. lutea* Mill.). Rosaceae. Austrian briar rose.

78915 to 78974—Continued.

A hardy shrub, up to 10 feet high, with slender stems and bright yellow flowers. Native to western Asia.

For previous introduction see No. 72879.

78945. ROSA FOETIDA BICOLOR (Jacq.)
Willm. Rosaceae.
Austrian copper brier rose.

Differs from the type in having coppery red flowers.

78946 to 78964. SEDUM spp. Crassulaceae. Stonecrop.

78946. SEDUM AIZOON L.
Aizoon stonecrop.

A glabrous fleshy perennial, native to Siberia, with several simple stems 1 to 2 feet high, alternate oblong-lanceolate distant leaves, and numerous yellow flowers in loose cymes.

78947. SEDUM ALBUM L.
White stonecrop.

A succulent perennial caespitose alpine, 4 to 6 inches high, native to the Mediterranean countries. The white flowers are in much-branched corymbose cymes.

78948. SEDUM ALBUM L.
White stonecrop.

Variety *brevifolium*. A form with shorter leaves.

78949. SEDUM ALTISSIMUM Poir.

A hardy common species from the Mediterranean region. The plants vary in height from 6 inches to 2 feet, but all forms are characterized by their decumbent stems, ascending branches crowded with sharply tipped more or less glaucous leaves, and very tall flowering branches which bear smaller leaves and dense terminal umbellate cymes of greenish-white flowers.

78950. SEDUM ANOPETALUM DC.

A hardy species native from central and southern Europe eastward, which, like the preceding, varies greatly and occurs under many names. It is related to *S. reflexum*, but seems to differ most in the more slender terete leaves and the erect carriage of the developing inflorescence. The flowers are usually greenish white, more rarely yellow.

78951. SEDUM ASIATICUM (Don)
Spreng.

A Himalayan succulent up to a foot high, with opposite linear, irregularly toothed leaves and yellow flowers in compact globose cymes.

For previous introduction see No. 39075.

78952. SEDUM CRASSIPES Wall.

A low succulent Himalayan alpine with slender stems 2 to 6 inches high, linear somewhat dentate leaves one-half inch long, and straw-colored flowers in a dense cyme.

78953. SEDUM DASYPHYLLUM L.
Leafy stonecrop.

A low hardy tufted perennial, native to the Mediterranean countries, with slender stems, and crowded glaucous

78915 to 78974—Continued.

beadlike leaves which are easily broken from the stem. The flowers are white tinted pink, but are not so showy as the leaves. The plant is said to prefer a dry site.

78954. SEDUM ELLACOMBIANUM Praeger.

A Japanese succulent perennial of caespitose habit, with annual stems up to 6 inches high, obovate or spatulate leaves, and yellow flowers in a compact cymose inflorescence.

78955. SEDUM EWERSII Ledeb.
Ewers stonecrop.

A hardy succulent perennial with caespitose ascending stems, opposite glaucous elliptic or cordate leaves, and purple flowers in rather dense terminal corymbs. Native to central Asia.

78956. SEDUM KAMTSCHATICUM Fisch.
and Mey.
Orange stonecrop.

A glabrous perennial succulent with greenish or pinkish branches 10 inches long, deep-green coarsely toothed leaves, and numerous yellow flowers in terminal cymes. Native to eastern Asia.

78957. SEDUM MAXIMUM Suter.
Great stonecrop.

A stout bushy perennial up to 2 feet high, with opposite sessile leaves and whitish flowers in terminal and lateral cymes on long peduncles, forming a loose panicle. Native to Europe and northwest Asia.

78958. SEDUM PILOSUM Bieb.

A fleshy perennial of round-compact habit, with small hairy leaves and rose-pink flowers in a panicle. Native to the Caucasus.

78959. SEDUM POPULIFOLIUM Pall.
Poplar stonecrop.

A shrubby glabrous succulent up to 10 inches high, with ovate-acute coarsely toothed leaves 1½ inches long and terminal cymes of pinkish flowers. Native to Siberia.

78960. SEDUM RUPESTRE L.

A succulent perennial 6 to 12 inches high, from western Europe, with glaucous stems and foliage which redden with age. The numerous yellow flowers are in umbellate cymes.

78961. SEDUM SEMENOVII Masters.

An Asiatic succulent with annual stems about a foot high, from a perennial rhizome. The sessile leaves, in six rows, are an inch long, and the whitish flowers are in compact globose terminal cymes.

78962. SEDUM SPURIUM Bieb.

Variety *splendens*. A succulent perennial, native to Asia Minor, with a rosette of cuneate-obovate pubescent leaves and a corymb of flesh-colored flowers, purple veined beneath.

78963. SEDUM TELEPHIUM L.
Liveforever.

An erect fleshy perennial a foot or more high with scattered oblong-ovate leaves and numerous pink, red-spotted flowers in dense terminal and lateral cymes. Native from central Europe to Siberia.

78915 to 78974—Continued.

78964. *SEDUM TELEPHIUM BORDERI* Masters.

A variety with reddish stems and flat-topped corymbs of pink flowers.

78965 to 78973. *SEMPERVIVUM* spp. Crasulaceae. Houseleek.

78965. *SEMPERVIVUM ARENARIUM* Koch. Sand houseleek.

A succulent European alpine which forms globular rosettes of 60 to 80 bright-green oblanceolate leaves. The pale-yellow flowers are in dense heads.

78966. *SEMPERVIVUM BARBATUM* C. Smith.

A shrubby succulent with stout stems and flat rosettes of oblong spatulate leaves. The yellow flowers are in rather open panicles. Native to the Canary Islands.

78967. *SEMPERVIVUM GLAUCUM* Tenore. Fuzzy houseleek.

A succulent alpine, native to central Europe, which forms rosettes 2 to 3 inches in diameter, with oblanceolate glaucous leaves and about a dozen pale or bright-red flowers in a short compact panicle on a densely hairy stem about a foot high.

78968. *SEMPERVIVUM SANGUINEUM* Jeanb.

A low compact reddish hairy succulent alpine with oval-acuminate leaves and small pink flowers in few-flowered clusters on slender stems 5 to 8 inches long. Native to the Pyrenees.

78969. *SEMPERVIVUM SCHNITTSPAHNII* Lagg.

A succulent alpine, native to Switzerland, with a rosette of narrowly ovate smooth leaves and pink flowers on an upright stem.

78970 to 78972. *SEMPERVIVUM TECTORUM* L. Roof houseleek.

A European herbaceous perennial with rosettes of obovate sharp-pointed thick pale-green leaves having distinct red tips, and densely pilose flowering stems a foot high, bearing branched panicles of pale-red flowers.

78970. Variety *glaucum*.

78971. Variety *pulchrum*.

78972. Variety *robustum*.

78973. *SEMPERVIVUM VERLOTI* Lamotte.

An alpine succulent with small rosettes of dark-green obovate leaves about an inch long, and 8 to 12 small rose-colored flowers on each peduncle of a branched panicle. Native to western Europe.

78974. *VIBURNUM DASYANTHUM* Rehder. Caprifoliaceae.

A hardy ornamental shrub 7 feet high from the mountains of western Hupeh, China, where it grows at altitudes of 4,000 to 9,000 feet. The narrow toothed leaves are dark metallic green above, paler beneath, and prominently veined. The flowers are in lax panicles, and the small red berries make the shrub a striking object of beauty in the fruiting season.

78975 to 79052.

From Kew, Surrey, England. Seeds and bulblets presented by Dr. A. W. Hill, Director, Royal Botanic Gardens. Received March 1, 1929.

78975 to 79001. *ALLIUM* spp. Liliaceae. Onion.

78975. *ALLIUM BEESIANUM* W. W. Smith.

An ornamental western Chinese onion, 9 to 18 inches high, with pendulous blue flowers.

For previous introduction see No. 76204.

78976. *ALLIUM BIDWILLIAE* S. Wats.

A pink-flowered onion about a foot high, native to the Sierra Madre Mountains, Calif.

For previous introduction see No. 66424.

78977. *ALLIUM CARINATUM* L.

Bulblets of a species with narrowly linear leaves and lilac-purple flowers, produced in a comparatively large head. It is found throughout southern Europe, especially in the Alps.

For previous introduction see No. 73522.

78978. *ALLIUM CAERULEUM* Pall.

A wild Russian onion, 2 feet or more high, with linear leaves and attractive light-blue flowers in erect rounded umbels.

78979. *ALLIUM CYANEUM* Regel.

A rather dwarf plant, less than a foot high, with small heads of pendulous bright-blue flowers. Native to northern China.

For previous introduction see No. 73523.

78980. *ALLIUM FISTULOSUM* L. Welsh onion.

Bulbs of a hardy onion, about 2 feet high, with green and yellow flowers.

For previous introduction see No. 63155.

78981. *ALLIUM GIGANTEUM* Regel.

One of the tallest members of the genus, becoming 4 feet high. It is native to the Himalayas. The bulbs are large, and the fleshy leaves are about 18 inches in length lying close to the ground. The bright-lilac flowers are in heads 4 inches in diameter.

For previous introduction see No. 58871.

78982. *ALLIUM HYMENORRHIZUM* Ledeb.

A perennial moisture-loving Russian species with linear leaves and purplish-violet flowers.

For previous introduction see No. 73598.

78983. *ALLIUM KARATAVIENSE* Regel.

An onion, native to Turkestan, with dense umbels of dull-pink flowers and

78975 to 79052—Continued.

very ornamental broad leaves of a striking blue-green color.

For previous introduction see No. 76335.

78984. *ALLIUM MACRANTHUM* Baker.

A handsome herbaceous perennial from the eastern Himalayas. The flat leaves are over a foot long, and the mauve-purple flowers are produced in clusters of 50 or more on scapes 2 feet high.

For previous introduction see No. 66429.

78985. *ALLIUM NEAPOLITANUM* Cirillo.

A southern European species, about 1½ feet high, with flat leaves and very ornamental white flowers, hardy in the South and requiring light perfectly drained soil.

For previous introduction see No. 58877.

78986. *ALLIUM ODORUM* L.

A European onion, cultivated in Japan for its leaves, which are produced abundantly in the spring and eaten as greens.

For previous introduction see No. 76336.

78987. *ALLIUM OSTROWSKIANUM* Regel.

A particularly striking species from Turkestan with deep rose-colored flowers produced freely in many-flowered umbels on scapes 12 inches high.

For previous introduction see No. 76208.

78988. *ALLIUM OVIFLORUM* Regel.

A low bulbous alpine about 2 inches high, with linear leaves up to 20 inches long and violet-purple flowers in a lax umbel. Native to the Himalayas.

78989. *ALLIUM PARADOXUM* (Bieb.) Don.

Bulblets of a perennial onion, a foot high, with white flowers. Native to Siberia.

For previous introduction see No. 66431.

78990. *ALLIUM PENDULINUM* Tenore.

An Italian alpine, with linear keeled leaves, and long-peduncled nodding whitish flowers.

78991. *ALLIUM SCHOENOPRASUM* L.
Chives.

The sand leek or rocambole of Europe and Asia Minor, which resembles garlic but has smaller bulbs of milder flavor produced at the tip of the stem as well as at its base. Its flowers are dull lavender pink, and the plant is useful in the perennial border.

For previous introduction see No. 68057.

78992. *ALLIUM SCORZONERAEFOLIUM* DC.

Bulblets of a species of unknown origin, cultivated in European gardens. It has very narrow concave leaves and

78975 to 79052—Continued.

small yellow flowers in a few-flowered umbel.

For previous introduction see No. 58882.

78993. *ALLIUM SENESCENTS* L.

A wild European onion, 1 to 2 feet high, with narrow, erect, often-twisted leaves and numerous, rather small, pink or lilac flowers in dense heads.

78994. *ALLIUM STELLATUM* Fraser.

A bulbous plant with 3-angled narrowly linear leaves and terminal umbels of deep-pink flowers on erect scapes. Native to the central United States.

78995. *ALLIUM SUBANGULATUM* Regel.

A caespitose bulbous plant with semiterete linear leaves and rosy purple flowers borne in a dense rounded umbel at the summit of an erect or ascending scape. Native to central China.

78996. *ALLIUM SUBHIRSUTUM* L.

A bulbous perennial native to the Mediterranean region with hairy margined narrow leaves a foot high and white flowers.

For previous introduction see No. 76337.

78997. *ALLIUM TANGUTICUM* Regel.

A hardy bulbous plant, up to 16 inches high, with numerous linear leaves and dense hemispherical umbels of purplish flowers. Native to western China.

78998. *ALLIUM URSINUM* L.

A wild European onion which grows in large masses in the open woods. When in flower it is very effective, clothing the ground with its broad green leaves, above which the numerous umbels of white flowers are borne on scapes a foot high.

For previous introduction see No. 58690.

78999. *ALLIUM VINEALE* L.

Bulblets of a pink-flowered wild onion, about a foot high, native to England.

79000. *ALLIUM YUNNANENSE* Diels.

A caespitose onion, native to southwestern China, with linear leaves about 6 inches long and pink or purplish flowers on scapes 4 to 16 inches long.

For previous introduction see No. 69906.

79001. *ALLIUM ZEBDANENSE* Boiss. and Noe.

A bulbous plant, 2 feet high, with linear-lanceolate leaves and three to five white flowers in an umbel. Native to Syria.

79002 to 79006. *BERBERIS* spp. Berberidaceae. **Barberry.**79002. *BERBERIS JULIANAE* C. Schneid. **Wintergreen barberry.**

A shrubby evergreen barberry, up to 7 feet high, native to western China. It has thick, 3-cleft spines about 1½ inches long, narrowly oval leathery leaves, and small yellow flowers, followed by blue-black fruits.

78975 to 79052—Continued.

For previous introduction see No. 65599.

79003. *BERBERIS LECOMTEI* C. Schneid.

A shrub up to 7 feet high, with slender yellowish-brown spines one-half inch long, thin lanceolate leaves, and small yellow flowers. Native to southwestern China.

79004. *BERBERIS LYCIUM* Royle.

A half-evergreen shrub, 10 feet high, with narrow bright-green leaves and pale-yellow flowers followed by ovoid violet berries. It is native to northern India.

For previous introduction see No. 76215.

79005. *BERBERIS ORTHOBOTRYS* Bienert.

A semievergreen barberry with very large crimson berries.

For previous introduction see No. 66688.

79006. *BERBERIS POLYANTHA* Hemsl.

A practically evergreen shrub 6 to 10 feet high, somewhat like *B. aggregata*, with slender simple or 3-pronged thorns, obovate leaves mostly rounded at the apex, and yellow flowers which are produced during June and July in large drooping panicles. The red berries are quickly destroyed by frost. Native to China.

For previous introduction see No. 58140.

79007 to 79011. *BRASSICA* spp. Brassicaceae. Mustard.79007. *BRASSICA BALEARICA* Pers.

A wild perennial mustard, native to the Balearic Islands, about 2 feet high, with a woody base.

79008. *BRASSICA CAMPESTRIS* L.

Rutabaga.

79009. *BRASSICA ERUCASTRUM* L.

A wild perennial mustard with yellow flowers, native to the mountains of southern Europe.

79010. *BRASSICA LAEVIGATA* Lag.

An annual mustard up to 8 inches high, with pinnatifid leaves in a basal rosette and small white flowers.

79011. *BRASSICA NIGRA* (L.) Koch. Black mustard.

For previous introduction see No. 45001.

79012. *CYTISUS SPACHIANUS* (Webb) Kuntze.

A Canary Island shrub, 6 to 8 feet high, with elongated racemes of fragrant bright-yellow flowers.

For previous introduction see No. 76246.

79013. *DIANTHUS REQUIENII* Godr. Pink.

A hardy herbaceous perennial up to 10 inches high, rather stiff linear leaves, and a solitary bright-red flower. Native to the Pyrenees.

79014 to 79016. *DIMORPHOTHECA* spp. Asteraceae.

78975 to 79052—Continued.

79014. *DIMORPHOTHECA AURANTIACA* DC. Winter cape-marigold.

A South African perennial, somewhat shrubby at times, with thickish oblong or spatulate leaves and large heads of orange-yellow flowers.

79015. *DIMORPHOTHECA HYBRIDA* (L.) DC. Cape-marigold.

A South African composite of variable size and habit. The hairy obovate leaves are 1 to 3 inches long, and the flowers, about 2 inches across, are white above and purple beneath.

79016. *DIMORPHOTHECA PLUVIALIS* (L.) Moench. Cape-marigold.

An erect or diffuse, simple or branched annual from the Cape of Good Hope. The oblong or obovate leaves are hairy, and the flowers, white above and purple beneath, are in terminal heads.

79017 to 79020. *ERICA* spp. Ericaceae. Heath.79017. *ERICA AUSTRALIS* L.

An evergreen shrub 2 to 3 feet high, native to Portugal, with small rose-purple flowers.

79018. *ERICA SCOPARIA* L. Besom heath.

An evergreen southern Europe shrub, 10 feet high, with upright branches, small lustrous dark-green linear leaves in whorls of three or four, and long cylindrical spikes of greenish-white flowers.

For previous introduction see No. 78681.

79019. *ERICA STRICTA* Donn. Corsican heath.

For previous introduction and description see No. 78898.

79020. *ERICA TETRALIX* L. Crossleaf heath.

A low shrub with its leaves in whorls of four and umbellate clusters of rosy flowers. Native to western Europe.

79021 to 79028. *GENTIANA* spp. Gentianaceae. Gentian.79021. *GENTIANA ASCLEPIADEA* L. Milkweed gentian.

For previous introduction and description see No. 78858.

79022. *GENTIANA ASCLEPIADEA* L. Milkweed gentian.

Variety *alba*. A white-flowered form.

79023. *GENTIANA CRUCIATA* L. Cross gentian.

For previous introduction and description see No. 78931.

79024. *GENTIANA FETISOWII* Regel and Winkler.

A hardy herbaceous perennial, native to Turkestan, about 6 inches high, with small deep-blue flowers.

79025. *GENTIANA FREYNIANA* Borum.

A vigorous species rather close to *Gentiana septemfida*, requiring similar

78975 to 79052—Continued.

conditions and making a good garden plant with fine bright-blue, bell-shaped flowers in late summer.

79026. GENTIANA FRIGIDA Haenke.

An alpine perennial, native to central Europe, scarcely 3 inches high, with opposite, lanceolate, somewhat fleshy leaves about 1 inch long and terminal white flowers marked with blue.

79027. GENTIANA GROMBEZEWSKII Hort.

A place of publication or description for this name has not been found.

79028. GENTIANA TIBETICA King.
Himalayan gentian.

For previous introduction and description see No. 78939.

79029. IRIS CHRYSOPHAGES Dykes. Iridaceae.
Goldvein iris.

One of the handsomest of the Siberian irises; the velvety dark-purple flowers are brightened by golden reticulations at the throat, running into a signal patch in the blade.

For previous introduction see No. 73545.

79030. IRIS MILESII Baker. Iridaceae.

A semievergreen Himalayan iris related to *Iris tectorum* with seven or eight leaves 2 to 3 feet long on the tall flower stem; the latter is branched and bears about four heads of small rosy lilac flowers, more or less spotted with darker magenta.

For previous introduction see No. 67265.

79031. KALMIA CUNEATA Michx. Ericaceae.
Kalmia.

An erect deciduous shrub with slender straggling stems up to 3 feet long and oblong-oval leaves. The creamy white flowers, with a red band within, are in small lateral umbels. Native to the southeastern United States.

79032. KALMIA POLIFOLIA Wang. (*K. glauca* Ait.). Ericaceae. **Bog kalmia.**

A hardy evergreen shrub, native to Newfoundland, with opposite, narrow-oblong leathery leaves and a terminal corymb of purple flowers.

79033. MUSCARI ARMENIACUM Leichtl. Liliaceae.
Grape-hyacinth.

A handsome hardy bulbous plant, native to Armenia, with many linear leaves overtopping the racemes of deep-violet flowers. One of the last of the grape-hyacinths to flower.

For previous introduction see No. 66586.

79034. MUSCARI SZOVITSIANUM Baker. Liliaceae.
Grape-hyacinth.

A bulbous perennial, native to Persia, with leaves 6 inches long and several scapes 5 inches high, bearing clusters of slightly fragrant bright-blue flowers.

79035 to 79038. PAEONIA spp. Ranunculaceae.
Peony.**79035. PAEONIA ANOMALA** L.

A strong-growing, wild Siberian peony 1 to 2 feet high, found on well-drained

78975 to 79052—Continued.

hillsides. Flowers large and of a pale-rose color; foliage somewhat coarse.

For previous introduction see No. 66593.

79036. PAEONIA ARIETINA Anders.

A European herbaceous peony about 3 feet high, with 5-lobed or 6-lobed leaves and a large solitary dark-red flower.

For previous introduction see No. 67044.

79037. PAEONIA DELAVAYI Franch.

A very attractive vigorous shrub 4 feet high, growing on steep slopes among limestone boulders and in alpine meadows at altitudes of 10,000 to 13,000 feet. The deep-crimson flowers are 3 inches in diameter. Native to southwestern China.

For previous introduction see No. 55994.

79038. PAEONIA LUTEA Delavay.
Golden peony.

A shrubby Chinese peony with a short woody stem 1 or 2 feet high and deep-green leathery 3-parted leaves, white beneath, and about a foot in length. The golden-yellow single or slightly double flowers are 2½ inches across.

For previous introduction see No. 67048.

79039. PETTERIA RAMENTACEA (Sieber) Presl. (*Cytisus weldeni* Vis.). Fabaceae.

An upright leguminous shrub, 6 feet or less in height, with trifoliate leaves and dense upright racemes of fragrant yellow flowers. Native to southern Europe.

For previous introduction see No. 66599.

79040. SORBUS FOLGNERI (C. Schneid.) Rehder (*Pyrus folgneri* Leveille). Malaceae.
Mountain-ash.

A handsome Chinese tree with gracefully spreading branches and oval leaves, dark-green above and white-hairy beneath. The ovoid red berries are about one-half inch long.

For previous introduction see No. 61990.

79041 to 79043. RHODODENDRON spp. Ericaceae.**79041. RHODODENDRON DECORUM** Franch.

A western Chinese shrub with glabrous leaves, glaucous beneath, and broadly bell-shaped white or pink flowers 2 inches across.

For previous introduction see No. 53729.

79042. RHODODENDRON SMIRNOWI Trautv. **Smirnow rhododendron.**

A shrub or small tree, reputed to be hardy, about 20 feet high with dark-green leaves, grayish hairy beneath, and compact heads of rosy red flowers, each about 3 inches across. Native to the Caucasus.

For previous introduction see No. 67373.

79043. RHODODENDRON TSCHONOSKII Maxim.

78975 to 79052—Continued.

A Japanese forest shrub with flaky bark, elliptic leaves one-third inch long, and heads of two to four small white flowers.

79044 to 79046. *SEDUM* spp. *Crassulaceae*. *Stonecrop*.

79044. *SEDUM ELLACOMBIANUM* Praeger.

For previous introduction and description see No. 78954.

79045. *SEDUM EWERSII* Ledeb. *Ewers stonecrop*.

For previous introduction and description see No. 78955.

79046. *SEDUM MIDDENDORFFIANUM* Maxim. *Middendorff stonecrop*.

A hardy succulent *cespitose* perennial up to 16 inches high, with narrow leaves up to 3 inches long, and small yellow flowers in dense cymes. Native to eastern Siberia.

79047. *SEMPERVIVUM ASSIMILE* Schott. *Houseleek*.

A Rumanian succulent with rosettes of 60 to 80 oblanceolate leaves and pale-rose flower, about three-fourths inch across in cymes on stems about 6 inches high.

79048. *SEMPERVIVUM TRISTE* Baker. *Houseleek*.

A small fleshy plant which forms rosettes 2 to 3 inches in diameter, composed of oblanceolate leaves, red brown above and drab green beneath. The stem leaves are red brown throughout. The bright-red flowers, an inch across, are in a panicle 6 inches long. Country of origin unknown.

79049. *STRANVAESIA DAVIDIANA* SALICIFOLIA (Hutchinson) Rehd. *Malaceae*.

A rosaceous shrub, closely related to *Stranvaesia undulata*, from which it differs in its narrower, willowlike leaves and its fruits, which are red, not orange like those of *S. undulata*. The small white flowers are in terminal clusters. It comes from western China and is hardy in southeastern England.

For previous introduction see No. 62392.

79050 to 79052. *SYRINGA* spp. *Oleaceae*. *Lilac*.

79050. *SYRINGA PINETORUM* W. W. Smith.

A hardy spreading ornamental shrub, 10 feet high, from western China. Somewhat like *Syringa microphylla*, with rosy lavender flowers.

79051. *SYRINGA SWEGINZOWII* Koehne and Ling. *Chengtú lilac*.

An attractive hardy lilac, about 10 feet high, from western China. The dark-green, oval leaves are 2 to 4 inches long, and the fragrant, rosy lilac flowers are borne in June in terminal panicles up to 10 inches in length.

For previous introduction see No. 62584.

79052. *SYRINGA VILLOSA* Vahl. *Late lilac*.

A bushy lilac about 8 feet high, with stout, upright branches, broadly oval,

78975 to 79052—Continued.

bright-green leaves, and pinkish-lilac flowers in panicles 3 to 7 inches long. Native to China and the Himalayas.

For previous introduction see No. 76044.

79053 to 79111.

From Ipswich, England. Seeds purchased from Thompson & Morgan. Received February 28, 1929.

79053 to 79055. *CYCLAMEN* spp. *Primulaceae*.

79053. *CYCLAMEN EUROPAEUM* L. *European cyclamen*.

A low, more or less evergreen European perennial with a tuberous root, rounded or kidney-shaped leaves white marbled above and purplish beneath, and fragrant bright-red flowers on scapes 4 or 5 inches high in autumn.

79054. *CYCLAMEN MACROPHYLLUM* Sieber.

A low tuberous-rooted perennial, native to southern Europe, with large cordate, crenate leaves usually mottled with white, and in autumn white flowers on scapes 6 inches high.

79055. *CYCLAMEN NEAPOLITANUM* Tenore. *Neapolitan cyclamen*.

A low perennial, 3 inches high, arising from a large black tuber. The deep-pink or rarely white flowers are borne in autumn. Native to Italy.

For previous introduction see No. 73535.

79056 to 79058. *DAPHNE* spp. *Thymelaeaceae*.

79056. *DAPHNE ALPINA* L. *Alpine daphne*.

An erect European alpine shrub 2 feet high, with narrow deciduous leaves and fragrant white or pinkish flowers in terminal clusters.

79057. *DAPHNE LAUREOLA* L.

A shrub, up to 4 feet high, with shining dark-green leaves about 3 inches long and yellowish-green flowers in nearly sessile racemes. Native to southern Europe and western Asia.

79058. *DAPHNE STRIATA* Tratt.

A dwarf evergreen alpine shrub with small, wedge-shaped narrow leaves and pink flowers in many-flowered terminal heads. Native to Switzerland.

79059. *DIGITALIS ISABELLINA* Hort. *Scrophulariaceae*. *Foxglove*.

A new hybrid of *Digitalis purpurea*, with pinkish-yellow flowers, of the hue of *Lilium testaceum*.

79060 to 79062. *ERICA* spp. *Ericaceae*. *Heath*.

79060. *ERICA CINEREA COCCINEA* Bean.

A very striking variety with red, almost scarlet, flowers, but less vigorous than the type.

79061. *ERICA STRICTA* Donn. *Corsican heath*.

For previous introduction and description see No. 78898.

79062. *ERICA VAGANS* L. *Cornish heath*.

79053 to 79111—Continued.

For previous introduction and description see No. 78899.

79063 to 79095. *GENTIANA* spp. *Gentiana*-
ceae. *Gentian*.

79063. *GENTIANA GENTIANELLA* A. T. Johnson. *Stemless gentian*.

For previous introduction and description see No. 78857.

79064. *GENTIANA ALPINA* Vill.

An almost stemless alpine plant, native to central Europe, with small glistening gray-green leaves curving inward and imbricated, forming rosettes, and dark-blue flowers resembling in general style those of *G. gentianella*.

79065. *GENTIANA ANGULOSA* Bieb.

A tufted alpine, native to the Caucasus, with narrowly oval leaves and solitary bowl-shaped blue flowers, of the type of *G. verna*, but much larger.

79066. *GENTIANA ASCLEPIADEA* L. *Milkweed gentian*.

For previous introduction and description see No. 78858.

79067. *GENTIANA BAVARICA* L.

For previous introduction and description see No. 78859.

79068. *GENTIANA BRACHYPHYLLA* Vill.

A high alpine perennial, native to central Europe, forming spreading tufts with small round leaves and brilliant-blue flowers of the general type of *G. verna*, appearing in late summer.

79069. *GENTIANA CALYCOSA* Griseb.

A perennial about a foot high, with ovate leaves three-fourths of an inch long, and dark-blue, usually solitary, flowers. Native to northwestern North America.

79070. *GENTIANA CLUSH* Perr. and Song.

A low stemless perennial, possibly a form of *G. vulgaris*, with rosettes of leathery leaves and dark-blue flowers. Native to the Alps.

79071. *GENTIANA CRUCIATA* L. *Cross gentian*.

For previous introduction and description see No. 78931.

79072. *GENTIANA DAHURICA* Fisch.

A rather unattractive Siberian gentian about a foot high, with an ascending stem, linear-lanceolate leaves about 3 inches long, and sessile terminal dark-blue flowers 1½ inches long. Introduced for comparative study only.

79073. *GENTIANA DETONSA* Rottb.

A biennial gentian native to the cold regions of northwestern Asia, related to *G. crinita*, with a very short stem and oblong leaves arranged more or less in a basal rosette. The flowers, borne singly, are deep blue, with the corolla lobes wavy at the tips.

For previous introduction see No. 55274.

79074. *GENTIANA FARRERI* Balf. f.

A perennial, native to the mountains of western China, with thick roots and numerous freely rooting stolons which

79053 to 79111—Continued.

form wide-spreading masses. The thick opposite leaves are about half an inch long, and the solitary terminal flowers, which are so freely produced as to cover the plant, are blue with a white throat.

79075. *GENTIANA FREYNIANA* Borum.

For previous introduction and description see No. 79025.

79076. *GENTIANA KESSELRINGI* Regel.

A plant about 8 inches high, with whitish flowers dotted purple on the outside, useful for comparative study only. Native to Turkestan.

79077. *GENTIANA KOCHIANA* Perr. and Song.

An alpine gentian belonging to the *Acaulis* group, from central Europe with large flat thin light-green leaves and dark-blue flowers with five blackish-green spots on the throat. Some forms have been reported from the limestone regions.

79078. *GENTIANA KURROO* Royle.

A Himalayan gentian forming dense tufts from which rise lax stems up to 7 inches high with narrowly lanceolate leaves and bell-shaped blue flowers spotted with white inside. It is said to appreciate a sunny location, with ample moisture and perfect drainage, especially in spring and autumn.

79079. *GENTIANA LAGODECHIANA* Hort.

For previous introduction and description see No. 78860.

79080. *GENTIANA MACROPHYLLA* Pall.

A herbaceous perennial, native to northern Europe and Asia, with an erect or ascending stem, narrow spreading leaves, and clustered heads of dark-blue flowers. For comparative study only.

79081. *GENTIANA NIVALIS* L.

A slender annual about 3 inches high, native to Scotland, with small obovate leaves and solitary blue flowers appearing in late summer.

79082. *GENTIANA PARRYI* Engelm.

An alpine gentian up to 9 inches high, with large dark-purple flowers contrasting attractively with the broad pale-green leaves. It is said to need conditions similar to those required by *G. septemfida*.

79083. *GENTIANA PHLOGIFOLIA* Schott and Kotschy.

For previous introduction and description see No. 78933.

79084. *GENTIANA PNEUMONANTHE* L.

An erect perennial with many slender stems, dark narrow leaves, and dark-blue flowers in a cymelike raceme. Native to the mountain marshes in central Europe.

79085. *GENTIANA PROLATA* Balf. f.

A stoloniferous perennial with erect branches about 2 inches long, small succulent leaves, and a terminal blue flower about 2 inches long. Native to Sikkim.

79053 to 79111—Continued.

79086. *GENTIANA PRZEWALSKII* Maxim.

A lax-growing, free-flowering gentian from western China, rather like *G. kurroo*, with linear leaves about 6 inches long and flowers with nearly white tubes and cobalt-blue petals.

79087. *GENTIANA PUNCTATA* L.

A rather tall herbaceous perennial, native to central Europe, with yellow flowers spotted with brown, resembling but inferior to *G. lutea*.

79088. *GENTIANA PURDOMI* Hort.

A showy Asiatic gentian allied to but better than *G. przewalskii*, with rosettes of narrow glossy leaves, from which radiate prostrate stems each carrying about a dozen bright-blue flowers.

79089. *GENTIANA PURPUREA* L.

For previous introduction and description see No. 78934.

79090. *GENTIANA SCABRA* Bunge.

A hardy herbaceous perennial requiring conditions similar to those needed by *G. septemfida*. It has an erect stem a foot or less high, oval-oblong dark-green leaves, and terminal flowers an inch long. Native to Turkestan.

79091. *GENTIANA SEPTEMFIDA* Pall.

For previous introduction and description see No. 78861.

79092. *GENTIANA SETIGERA* A. Gray.

A rather stout perennial, with a thick root, 7 to 10 pairs of leaves, and blue flowers 1½ inches long. Native to California.

79093. *GENTIANA STRAMINEA* Maxim.

A prostrate perennial, native to western China, with attractive blue flowers.

79094. *GENTIANA VERNA* L.

For previous introduction and description see No. 78862.

79095. *GENTIANA WALUJEWI* Regel and Schmalh.

A dwarf gentian, native to Sinkiang, China, with white blue-spotted flowers.

79096. *IRIS CHRYSOPHYLLA* Howell. *Iris*.

An iris with low slender leafy stems 2 to 8 inches high, from slender root-stalks, linear leaves, and one to three yellow to white flowers 2 to 3 inches long. Native to southern Oregon in pine woods.

79097 to 79111. *PRIMULA* spp. *Primulaceae*. *Primrose*.79097. *PRIMULA APOCLITA* Balf. and Forr.

A Tibetan primrose of the *Muscarioides* section, with a rosette of papery, oblong-spatulate leaves, and purplish-blue flowers borne on a scape 6 inches high.

79098. *PRIMULA BURMANICA* Balf. and Ward.

A stout moisture-loving primrose from western China, with oblanceolate leaves up to a foot long and reddish-

79053 to 79111—Continued.

purple flowers borne on a scape 2 feet high. It is a member of the *Candelabra* section.

79099. *PRIMULA CHIONANTHA* Balf. and Forr.

For previous introduction and description see No. 78913.

79100. *PRIMULA CHRYSOPA* Balf. and Forr.

A tufted perennial marsh-loving primrose from southwestern China, where it grows in moist stony alpine meadows. It has oblong, bright-green, somewhat fleshy, long-stemmed leaves and very attractive fragrant flowers borne in 2-flowered to 4-flowered umbels on the summit of the slender scape. The calyx is green or purplish and the oblique corolla pale lilac with a golden eye. The entire plant is more or less covered with a white mealy powder. This is a member of the *Farinosae* section.

For previous introduction see No. 56019.

79101. *PRIMULA CONSPERSA* Balf. and Purd.

A primrose from western China with linear-ovate leaves 4 to 6 inches long, and rose-pink flowers in whorls of about 12, on scapes a foot high. It is one of the *Farinosae* section.

79102. *PRIMULA CYANANTHA* Balf. and Forr.

A western Chinese primrose about a foot high, with papery oval-oblong leaves about 3 inches long in a rosette and intensely dark-blue fragrant flowers in a many-flowered terminal cluster. One of the *Muscarioides* section.

79103. *PRIMULA FLORINDAE* K. Ward.

A Tibetan primrose about 3 feet high, one of the *Stikkimensis* section, with cowslip-yellow fragrant flowers in an immense cluster of 60 to 80 flowers. The very large leaves resemble those of *Caltha palustris*, and the plant grows in running streams.

79104. *PRIMULA GLYCOSMA* Petitm.

A strong-growing primrose of the *Candelabra* section, native to boggy situations in western China. The deep-purple flowers have golden centers.

79105. *PRIMULA HELODOXA* Balf.

For previous introduction and description see No. 78866.

79106. *PRIMULA LICHANGENSIS* Forrest.

A handsome primrose of the *Cortusoides* section, from southwestern China, where it reaches a height of 6 to 14 inches, growing on ledges and boulders in dry shady places. The fragrant flowers vary from rose to almost crimson, with greenish-yellow eyes. The foliage is very variable.

79107. *PRIMULA LITTONIANA* Forrest.

A very handsome plant, 2 to 3 feet tall, growing in swampy meadows in southwestern China at altitudes between 10,000 and 11,000 feet. It is one of the *Muscarioides* section. The

79053 to 79111—Continued.

pendent deep indigo-blue flowers are borne in long densely packed spikes, and the rich crimson calyxes are very striking.

For previous introduction see No. 59428.

79108. PRIMULA LITTONIANA Forrest.

Variety *grandiflora*. A giant form with spikes 8 inches long.

79109. PRIMULA NUTANS Delav.

A Chinese primrose 9 to 20 inches high, of the Muscarioides section, with obovate or oblanceolate hairy leaves, and clear-blue fragrant flowers in a terminal cluster.

79110. PRIMULA SIKKIMENSIS Hook.

For previous introduction and description see No. 78868.

79111. PRIMULA SMITHIANA Craib.

A perennial alpine primrose of the Candelabra section, with tall stems and whorls of soft-yellow flowers; very similar to *P. builegana*. Native to the Himalayas.

79112 to 79147.

From San Francisco, Calif. Seeds presented by John McLaren, Superintendent, Golden Gate Park. Received January 15, 1929.

79112. ACTINOTUS LEUCOCEPHALUS Benth. Apiaceae.

This Western Australian flannel flower is an erect much-branched herbaceous perennial about 2 feet high, entirely clothed in soft silky hairs. The leaves are divided into three linear segments which are again three lobed, and the flowers are numerous in densely packed umbels.

79113 to 79120. BANKSIA spp. Proteaceae.

79113. BANKSIA ATTENUATA R. Br.

An evergreen tree up to 40 feet high, native to Western Australia, with serrate linear leaves 6 inches long, densely white tomentose underneath, and cylindrical spikes of small flowers united into a thick woody cone from which the silky fruits eventually protrude.

79114. BANKSIA BAXTERI R. Br.

A tall evergreen shrub 8 to 10 feet high, with the leaves 3 to 4 inches long, divided into ovate-triangular segments, and nearly globular flower spikes, 2 to 3 inches in diameter, covered with long fine hairs. Native to Western Australia.

79115. BANKSIA COCCINEA R. Br.

An erect evergreen shrub 15 feet high, native to Western Australia, with broadly ovate leaves 3 inches long and brilliant red flowers an inch long, in globose heads 2 inches in diameter.

For previous introduction see No. 76636.

79116. BANKSIA LEMANNIANA Meisn.

An evergreen shrub with tomentose branches, flat regularly toothed, obovate-oblong leaves 3 inches long, loosely tomentose underneath, and globular to oblong dense flower heads 4 inches long.

79112 to 79147—Continued.

79117. BANKSIA OCCIDENTALIS R. Br.

An erect evergreen shrub up to 8 feet high, native to Western Australia, with glabrous branches, linear leaves 2 to 4 inches long, three toothed at the end and white underneath, and red flowers in ovoid to cylindrical clusters 3 to 6 inches long.

79118. BANKSIA PRIONOTES Lindl.

A Western Australian evergreen tree up to 30 feet high, with thick tomentose branches. The leaves, 8 to 12 inches long, are divided into regular sharp-pointed lobes, and the thick golden flower spikes are 5 inches long.

79119. BANKSIA SPECIOSA R. Br.

A tall evergreen shrub, native to Western Australia, with leaves a foot long, divided into numerous rounded triangular lobes and white tomentose beneath, and thick oblong yellow flower spikes 5 inches long.

79120. BANKSIA VERTICILLATA R. Br.

A small Western Australian tree with tomentose branchlets, nearly entire oblong or broadly linear leaves in whorls of four to six, and yellow flowers in cylindrical spikes 8 inches long.

79121. CASSIA PLEUROCARPA F. Muell. Caesalpinaceae.

A tall erect Australian shrub with four or five rather distinct pairs of thick oblong leaflets and loose racemes of yellow flowers.

For previous introduction see No. 64479.

79122. CHAMAELAUCIUM CILIATUM Desf. Myrtaceae.

An erect bushy heathlike shrub 2 feet high, native to Western Australia, with very small linear terete leaves and very small shell-pink flowers clustered in the axils of the leaves at the ends of the branches.

79123. COMESPERMA SPINOSUM F. Muell. Polygalaceae.

A rigid much-branched spiny evergreen shrub, native to Western Australia, with the leaves reduced to small scales and the small flowers scattered along the branches.

79124. CONOSTYLIS DRUMMONDII Benth. Amaryllidaceae.

A woolly densely tufted herbaceous perennial, native to Western Australia, with rigid linear-terete leaves 6 to 9 inches long and several scapes bearing heads of small yellow flowers.

79125. DAVIESIA CORDATA J. E. Smith. Fabaceae.

An erect evergreen shrub 2 to 3 feet high, with elongated angled branches, ovate coriaceous leaves 3 to 4 inches long, having deeply cordate clasping bases, and axillary umbels of yellow and purple pea-shaped flowers. Native to Western Australia.

79126. GREVILLEA ERIOSTACHYA Lindl. Proteaceae.

A stout erect evergreen shrub 3 to 6 feet high, native to Western Australia, with narrowly linear leaves 8 inches long, usually pinnately divided into three to five segments, and small orange flowers in densely tomentose 1-sided racemes 6 inches long.

79112 to 79147—Continued.

79127 to 79129. *GASTROLOBIUM* spp.
Fabaceae.

These are all reported to be poisonous to livestock.

79127. *GASTROLOBIUM CALYCINUM* Benth.

An erect glabrous evergreen shrub 2 feet high, native to Western Australia, with rigid coriaceous sharp-pointed oblong to lanceolate leaves 2 inches long, and axillary and terminal racemes of rather large yellow, and purple pea-shaped flowers.

79128. *GASTROLOBIUM EPACRIDIOIDES* Meisn.

A tall evergreen shrub with wand-like loosely villous branches, coriaceous spreading ovate leaves one-half inch long, and loose axillary clusters of yellow and purple pea-shaped flowers. Native to Western Australia.

79129. *GASTROLOBIUM VILLOSUM* Benth.

A softly tomentose decumbent evergreen shrub, 2 to 4 feet high, native to Western Australia, with opposite ovate leathery leaves 2 inches long and terminal racemes, 4 inches long, of orange and purple pea-shaped flowers.

79130. *GREVILLEA POLYBOTRYA* Meisn.
Proteaceae.

An erect evergreen shrub, native to North Australia and Western Australia, with entire oblong leaves sprinkled with shining silvery hairs when young, but pale and glabrous when mature. The large dense leafless panicles are made up of tomentose cylindrical spikes of small flowers.

79131. *HEMIGENIA CANESCENS* (Bartl.) Benth. Menthaceae.

A Western Australian evergreen shrub, 2 feet high, clothed with long loose silky white pubescence, with thick soft spreading or recurved obovate leaves half an inch long, and small axillary 2-lipped pink or purple flowers.

79132. *HEMIGENIA INCANA* (Lindl.) Benth. Menthaceae.

An evergreen undershrub 2 to 3 feet high, native to Western Australia, covered with short appressed silky hairs, with oblong leaves 2 inches long and racemes of pink or purple flowers.

79133. *JACKSONIA DECUMBENS* Pritz.
Fabaceae.

A low evergreen shrub with long decumbent branches, erect broadly linear cladodes, and rather large hairy yellow flowers borne singly or in small clusters at the tips of the branches.

79134. *KUNZEA MICRANTHA* Schauer.
Myrtaceae.

A small erect evergreen shrub, native to Western Australia, with flat rigid linear leaves one-fourth inch long and dense terminal globular heads of small flowers.

79135. *KUNZEA SERICEA* (Labill.) Turcz.
Myrtaceae.

A tall evergreen shrub, native to Western Australia, with rigid tortuous branches, silvery white very stiff leaves

79112 to 79147—Continued.

less than an inch long, and yellowish flowers, either solitary or in terminal clusters.

For previous introduction see No. 64488.

79136. *LESCHENAULTIA BILOBA* Lindl.
Goodeniaceae.

An evergreen shrub 2 to 3 feet high, native to Western Australia, with slender scattered leaves one-half inch long. The flowers are either in small clusters in the upper axils or borne in large leafy terminal clusters. The corolla, about an inch long, has spreading dark-blue wings marked with parallel transverse veins, and the sepals are narrow like the leaves.

For previous introduction see No. 58674.

79137. *MELALEUCA ELLIPTICA* Labill.
Myrtaceae.

A tall evergreen shrub, native to Western Australia, with elliptical evergreen leaves one-half inch long, and cylindrical spikes of large showy red flowers.

79138. *MELALEUCA* sp. Myrtaceae.

An evergreen Australian shrub with red flowers.

79139. *OLEARIA PAUCIDENTATA* F. Muell.
Asteraceae.

An evergreen undershrub 3 feet high, native to Western Australia, with oblanceolate leaves 1 inch long and small asterlike flower heads in terminal panicles.

79140. *OXYLOBIUM CAPITATUM* Benth.
Fabaceae.

An evergreen undershrub 3 feet high, native to Western Australia, with rigid branches, oblong to linear leaves 2 inches long, and axillary clusters or compact terminal racemes of small yellow pea-shaped flowers.

79141. *PATERSONIA XANTHINA* F. Muell.
Iridaceae.

A herbaceous perennial, native to Western Australia, with a short stem, a rosette of linear leaves 2 feet long, and a spike of yellow irislike flowers with outer segments 1 inch long and very small inner segments.

79142. *PIMELEA PREISSII* Meisn. Thymelaeaceae.

An erect slender shrub 2 feet high, native to Western Australia, with opposite linear-lanceolate leaves one-half inch long and globular silky villous heads of small flowers.

79143. *SCAEVOLA PLATYPHYLLA* Lindl.
Goodeniaceae.

An erect perennial, native to Western Australia, woody at the base with rigid herbaceous branches, ovate-sessile clasping leaves 2 inches long, and large silky winged white flowers in terminal leafy spikes.

79144. *SCAEVOLA STRIATA* R. Br. Goodeniaceae.

A diffuse hispid herbaceous perennial, 1 to 2 feet high, native to Western Australia, with coarsely toothed obovate

79112 to 79147—Continued.

leaves and axillary flowers 1 inch long having broad wings elegantly marked with transverse veins.

79145. SCHEFFLERA ACTINOPHYLLA (Endl.) Harms (*Brassia actinophylla* Endl.). Araliaceae.

A handsome umbrella-shaped evergreen tree up to 40 feet high, native to Queensland, with compound leaves made up of 6 to 16 leathery oblong leaflets 1 foot long, and racemes several feet long of small heads of angled dry fruits.

79146. SOLANUM ELLIPTICUM R. Br. Solanaceae.

A densely stellate pubescent undershrub, native to Australia, either low and spreading or tall and erect, with ovate sinuate-margined leaves 3 inches long and lateral racemes of violet flowers.

79147. STENOCARPUS CUNNINGHAMII R. Br. Proteaceae.

A tall bushy evergreen shrub or small tree, native to North Australia, with oblong-lanceolate leaves 2 to 4 inches long and axillary umbels of 10 to 30 small red or yellow slightly irregular flowers less than one-half inch long.

79148 and 79149. ZELKOVA spp. Ulmaceae.

Varieties growing near the United States Department of Agriculture, Washington, D. C. Scions collected by Paul Russell, Bureau of Plant Industry. Received March 6, 1929.

79148. ZELKOVA SERRATA (Thunb.) Makino (*Z. acuminata* Planch.).
Sawleaf zelkova.

A handsome Japanese tree up to 90 feet high, with a short trunk dividing into many upright spreading branches and forming a broad round-topped head. The sharply serrate leaves are ovate and are usually 2 to 3 inches long, or on young shoots up to 8 inches long.

For previous introduction see No. 35301.

79149. ZELKOVA CARPINIFOLIA (Pall.) Dipp. (*Z. ulmoides* C. Schneid.).

A tree up to 75 feet high, native to the Caucasus region, with crenately serrate dark-green obovate leaves 2 to 6 inches long, resembling those of the hornbeam.

79150 to 79184.

From Paris, France. Seeds presented by Prof. D. Bois, Paris Museum of Natural History. Received March 9, 1929.

79150. ALOE ANDRINGITRENSIS Perrier. Liliaceae.

A stemless aloe, native to central Madagascar, with a rosette of 12 to 18 sub-falcate leaves about 17 inches long. The leaves have horny margins and are armed with very small marginal spines. The dark orange-red flowers are in dense racemes about 4 inches long.

For previous introduction see No. 77885.

79151. BERBERIS ANGULOSA Wall. Berberidaceae. **Barberry.**

For previous introduction and description see No. 78915.

79150 to 79184—Continued.

79152. BERBERIS MORRISONENSIS Hayata. Berberidaceae. **Barberry.**

A barberry closely resembling *Berberis dictyophylla*. It is an erect, densely branched shrub with 3-parted, spined, and fascicled leathery oval leaves. Unlike *B. dictyophylla*, the berries are in fascicles and are more nearly round.

For previous introduction see No. 66687.

79153. COTYLEDON UMBILICUS L. Crassulaceae. **Navelwort.**

A perennial, fleshy plant, native to western Europe, which grows about a foot high and has succulent, orbicular leaves and pendulous racemes of yellowish-green flowers.

For previous introduction see No. 65006.

79154. DIMORPHOTHECA PLUVIALIS (L.) Moench. Asteraceae. **Cape-marigold.**

For previous introduction and description see No. 79016.

79155 to 79158. ERICA spp. Ericaceae.

79155. ERICA CILIARIS L. **Fringed heath.**

For previous introduction and description see No. 78894.

79156. ERICA CINEREA L. **Twisted heath.**

For previous introduction and description see No. 78680.

79157. ERICA TETRALIX L. **Crossleaf heath.**

For previous introduction and description see No. 79020.

79158. ERICA VAGANS L. **Cornish heath.**

For previous introduction and description see No. 79062.

79159 to 79163. GENTIANA spp. Gentianaceae. **Gentian.**

79159. GENTIANA ANGUSTIFOLIA Michx.

A slender ascending mostly unbranched plant, 4 to 16 inches high, with rigid linear or oblanceolate leaves and azure-blue flowers from 1½ to 2½ inches long. Native to the southern United States.

79160. GENTIANA ASCLEPIADEA L. **Milkweed gentian.**

For previous introduction and description see No. 78858.

79161. GENTIANA CAMPESTRIS L.

A low slender annual, native to Europe, with an erect stem 2 to 6 inches high, sessile narrow-oval leaves, and clusters of dark purplish-blue flowers.

79162. GENTIANA CRUCIATA L. **Cross gentian.**

For previous introduction and description see No. 78931.

79163. GENTIANA PNEUMONANTHE L.

For previous introduction and description see No. 79084.

79164 to 79173. KALANCHOE spp. Crassulaceae. **Kalanchoe.**

79150 to 79184—Continued.

79164. *KALANCHOE ALICIAE* Hamet.

A stout, erect, hairy succulent with opposite roundish or oval crenate leaves and rather large flowers in branched cymes. Native to central Madagascar.

For previous introduction see No. 78433.

79165. *KALANCHOE AROMATICA* Perrier.

A succulent perennial, native to Madagascar, characterized by being covered throughout with viscous red glands and by having a strong aromatic odor. The leaves are triangular-lanceolate, and the small flowers, greenish yellow with red lines, are in terminal cymes.

79166. *KALANCHOE CRENATA* Haw.

A succulent perennial, native to tropical Africa, 2 to 6 feet high, with a thick fibrous root, oblong or roundish oval crenate leaves about 2 inches long, and bright-yellow flowers one-half inch long, in terminal and axillary cymes.

79167. *KALANCHOE CRENATA* × *FELTHAMENSIS*.

Kalanchoe felthamensis is said to be a hybrid of *K. flammea* and *K. kirkii*.

79168. *KALANCHOE DAIGREMONTIANA* Ham. and Perr.

A brownish-green succulent perennial, native to Madagascar, becoming about 2 feet high. The leaves are petiolate, sometimes peltate, green within, barred with brown, deeply crenate with plants from the angles. The small pink flowers are in lax terminal panicles.

For previous introduction see No. 78426.

79169. *KALANCHOE GASTONIS-BONNIERI* Ham. and Perr.

During the nonblooming periods this succulent, native to Madagascar, is a low plant with a very short stem and a rosette of light-green crenate leaves. When about to flower the stem elongates to a height of nearly 2 feet, bearing at its summit a lax corymb of light-pink flowers.

For previous introduction see No. 78428.

79170. *KALANCHOE GLOBULIFERA COCCINEA* Perrier.

A stout-branched succulent perennial up to a foot high, with elongated, thick, irregularly toothed obovate-spatulate leaves over 2 inches long, and numerous red flowers in large terminal corymblike cymes. Native to Madagascar.

79171. *KALANCHOE HILDEBRANDTII* Baill.

A woody succulent, native to Madagascar, with dense cymes of small yellow flowers.

79172. *KALANCHOE SYNSEPALA* Baker.

An erect succulent perennial, native to central Madagascar, with the lower leaves opposite, sessile, oblong-spatulate, and green with a red margin. The small reddish flowers are in dense terminal cymes.

79150 to 79184—Continued.

For previous introduction see No. 78431.

79173. *KALANCHOE ORGYALIS* Baker.

An erect succulent perennial with stems 6 to 7 feet long, oblong-spatulate leaves 3 to 5 inches long, and yellow flowers one-third inch long in dense terminal cymes. Native to central Madagascar.

79174. *KITAIBELIA VITIFOLIA* Willd. Malvaceae.

A tall hardy herbaceous perennial, up to 8 feet high, with maplelike leaves and showy white or rose-colored axillary flowers. Native to Czechoslovakia.

79175. *NOTHOSCORDUM FRAGRANS* (Vent.) Kunth. Liliaceae.

A bulbous plant, native to tropical America, closely related to the onion. The bulb is round and yellowish white, and the linear, obtuse leaves are 8 to 12 inches long. The fragrant flowers, white flushed with pink, have purplish stamens and anthers and are borne on a scape 20 inches high.

For previous introduction see No. 66096.

79176. *ORNITHOGALUM LONGEBRACTEATUM* Jacq. Liliaceae. *Star-of-Bethlehem*.

A bulbous plant, native to South Africa, with five or six fleshy, very narrow leaves 1 to 2 feet long and a dense raceme of whitish flowers on a scape about 2 feet long.

For previous introduction see No. 66964.

79177. *ORNITHOGALUM PYRENAICUM* L. Liliaceae. *Star-of-Bethlehem*.

A bulbous plant, about 2 feet high, with greenish flowers, native to Europe.

For previous introduction see No. 69930.

79178. *PASSIFLORA CAERULEA* L. Passifloraceae. *Bluecrown passionflower*.

A slender strong-growing vine, native to Brazil, with leaves divided into five to seven lanceolate segments and fragrant greenish white flowers 4 inches across. The rays of the crown are blue at the tip, white in the middle, and purple at the base, while the styles are light purple.

For previous introduction see No. 30902.

79179. *PINUS BUNGEANA* Zucc. Pinaceae. *Lacebark pine*.

A tree sometimes 100 feet high, native to China, with the bark exfoliating in large scales, leaving light-colored areas and on old trees becoming chalky white.

For previous introduction see No. 62470.

79180. *RUSCUS ACULEATUS* L. Convallariaceae. *Butchersbroom*.

A rigid evergreen shrub, native to Europe, 2 to 4 feet high, with branching grooved stems and sessile ovate cladodes replacing the leaves. The small white flowers are borne in the axil of a bract in the middle of each cladode and are followed by ovoid red berries one-half inch in diameter.

79150 to 79184—Continued.

For previous introduction see No. 68148.

79181. SEDUM DASYPHYLLUM L. Crassulaceae. **Leafy stonecrop.**

For previous introduction and description see No. 78953.

79182 to 79184. SEMPERVIVUM spp. Crassulaceae.

79182. SEMPERVIVUM ARACHNOIDEUM L. Spiderweb houseleek.

A fleshy perennial, native to southern Europe, with a barren rosette about three-fourths inch in diameter, composed of about 50 oblong wedge-shaped, pale-green leaves. The bright-red flowers are in a small dense panicle on a stem 3 to 4 inches high.

79183. SEMPERVIVUM ARVERNENSE Lecocq and Lamotte. **Houseleek.**

A succulent perennial, native to France, which forms barren rosettes about 2 inches in diameter and is copiously stoloniferous. The short thick leaves are pale green, and the pale-pink flowers are borne in a panicle 5 inches long and broad, on a stem about 5 inches high.

79184. SEMPERVIVUM HAWORTHII Salm-Dyck. **Houseleek.**

A succulent evergreen perennial with a woody stem and yellow flowers. Native to the Canary Islands.

79185 to 79341.

From Chêne-Bourg, Geneva, Switzerland. Seeds purchased from Henry Correvon, Floraire Nurseries. Received March 5, 1929.

79185. BERBERIS FARRERI Hort. Berberidaceae. **Barberry.**

79186 to 79198. CYCLAMEN spp. Primulaceae.

79186. CYCLAMEN AFRICANUM Boiss. and Reut.

A summer-blooming tuberous perennial with coarsely toothed kidney-shaped or heart-shaped leaves dull and pale green marbled above, and nearly white, purple-tinged flowers an inch long. It is native to Algeria.

79187. CYCLAMEN ATKINSII T. Moore.

A hybrid between *Cyclamen coum* and *C. ibericum*. The leaves are reniform and dark green, spotted white, and the pale-rose or white flowers are usually lined or spotted red.

79188. CYCLAMEN BALEARICUM Willk.

A tuberous-rooted perennial with long-stemmed oval, heartshaped leaves, dark green and white mottled above. The flowers, white and rose colored, are about three-fourths inch long. It is native to the Balearic Islands.

79189. CYCLAMEN CILICICUM Boiss. and Heldr.

A herbaceous perennial native to Sicily. It closely resembles *C. europaeum*, but the larger pale-rose flowers are stained purple at the mouth.

79190 and 79191. CYCLAMEN COUM Mill.

A spring-blooming tuberous-rooted plant, native from southeastern Europe

79185 to 79341—Continued.

to Persia, about 6 inches high, with rounded-reniform uniformly green leaves and small scentless purple flowers.

79190. 79191.

79192. CYCLAMEN EUROPAEUM L. European cyclamen.

For previous introduction and description see No. 79053.

79193. CYCLAMEN GRAECUM Link.

An autumn-flowering perennial with obcordate irregularly dentate leaves and white or light-rose flowers with a deep-purple base. Native to southeastern Europe.

79194 and 79195. CYCLAMEN HEDERAE-FOLIUM Ait.

79194. A herbaceous perennial with a large black tuber, hastate or kidney-shaped leaves with wavy edges, and pink or rarely white flowers. It is native to southwestern Europe.

79195. Variety *album*. A white-flowered form.

79196. CYCLAMEN IBERICUM Stev.

A dwarf herbaceous perennial, native to the Caucasus region, with oval-rounded leaves zoned with white above and purple flowers with darker colored throats.

79197. CYCLAMEN JOVIS Hildebrand.

A low herbaceous perennial with a large black tuber, native to Asia Minor. The leaves vary in shape from hastate to rounded-reniform, and the slender flowers are pink or rarely white.

79198. CYCLAMEN REPANDUM Sibth. and Smith.

A spring-flowering tuberous-rooted plant with cordate undulate-lobed leaves and showy purple flowers. Native to the Mediterranean countries.

79199 to 79213. DAPHNE spp. Thymelaeaceae.

79199. DAPHNE ACUTILOBA Rehder.

A shrub, native to western China, about 5 feet high, with leathery lanceolate leaves 1 to 3 inches long and fragrant white flowers one-half inch long in few-flowered heads.

79200. DAPHNE ALPINA L. Alpine daphne.

For previous introduction and description see No. 79056.

79201. DAPHNE MEZEREUM L. February daphne.

Variety *autumnalis*. A form with large purple flowers, often blooming in the fall.

79202. DAPHNE OLEOIDES Schreb. (*Daphne burifolia* Vahl). Olive daphne.

An evergreen shrub, native to southeastern Europe, up to 3 feet high, with pubescent branches, hairy obovate-lanceolate leaves, and white or pale-lilac flowers in few-flowered heads.

79203. DAPHNE CAUCASICA Pall. Caucasian daphne.

79185 to 79341—Continued.

A hardy deciduous shrub, up to 4 feet high, with lanceolate leaves and fragrant white flowers in terminal heads of 3 to 20 flowers. Native to the Caucasus region.

For previous introduction see No. 38420.

79204. *DAPHNE CNEORUM* L.
Rose daphne.

A low trailing evergreen shrub, native to Europe, with crowded oblanceolate dark-green leaves and rather dense heads of small fragrant pink flowers.

79205. *DAPHNE GNIDIUM* L.

For previous introduction and description see No. 78678.

79206. *DAPHNE HAEMATOCARPA* Hort.

An ornamental shrub with blood-red fruits.

79207. *DAPHNE LAUREOLA* L.

For previous introduction and description see No. 79057.

79208 and 79209. *DAPHNE MEZEREUM* L.
February daphne.

79208. An erect deciduous shrub, about 4 feet high, with alternate oblong leaves, fragrant, lilac-purple flowers, usually in threes, appearing long before the leaves, and ovoid-roundish scarlet fruits. It is native to southeastern Europe and the Caucasus region.

79209. Variety *album*. A white-flowered form.

79210. *DAPHNE LAUREOLA PHILIPPI* (Gren. and Godr.) Meisn.

A dwarf variety, native to the Pyrenees, with the stems more fully covered with smaller leaves and with smaller, fragrant flowers, often violet, outside.

79211. *DAPHNE PONTICA* L.

An evergreen shrub, native to southeastern Europe and western Asia, about 5 feet high, with obovate-cuneate shining-green leaves 2 to 3 inches long and fragrant greenish-yellow flowers in small clusters.

79212. *DAPHNE PETRAEA* Leyb. (*D. rupestris* Facch.).

A dwarf evergreen shrub with small linear-lanceolate obtuse leaves and fragrant light-pink flowers in small terminal heads. It is native to central Europe.

79213. *DAPHNE STRIATA* Tratt.

For previous introduction and description see No. 79058.

79214 to 79219. *EPHEDRA* spp. Gnetaceae.
Jointfir.

79214. *EPHEDRA ALTISSIMA* Desf.
Climbing jointfir.

A handsome woody climber, native to North Africa, 10 to 20 feet high, with minute green leaves, and especially striking when covered with its ovoid scarlet berries.

For previous introduction see No. 74181.

79185 to 79341—Continued.

79215. *EPHEDRA AMERICANA* ANDINA (Poepp.) Stapf.

A low alpine shrub with short subulate leaves and fruiting aments about an inch long. It is native to the Andes of Chile.

79216. *EPHEDRA FRAGILIS* Desf.

A low bushy evergreen plant, native to the Mediterranean countries, with minute leaves borne on slender pale-green branches.

For previous introduction see No. 69035.

79217. *EPHEDRA FOLIATA* Boiss. and Kotschy.

A low shrub, native to Persia, with gray-green cylindrical branches and inconspicuous subulate leaves less than an inch long.

79218. *EPHEDRA HELVETICA* Meyer.

An alpine evergreen bush, native to Switzerland, with pale-green branches and minute leaves. This is said to yield the alkaloid known as ephedrine, a powerful heart stimulant and astringent.

For previous introduction see No. 69036.

79219. *EPHEDRA MAJOR PROCERA* (Fisch. and Mey.) Aschers. and Graebn.

A shrub, native to the Caucasus, 4 to 5 feet high, with smooth stiff gray-green branches, minute leaves, and nearly sessile yellowish aments.

79220 to 79286. *GENTIANA* spp. Gentiana-ceae.
Gentian.

79220. *GENTIANA GENTIANELLA* A. T. Johnson.
Stemless gentian.

For previous introduction and description see No. 78857.

79221. *GENTIANA ALPINA* Vill.

For previous introduction and description see No. 79064.

79222. *GENTIANA ANGULOSA* Bieb.

For previous introduction and description see No. 79065.

79223. *GENTIANA ANGUSTIFOLIA* Michx.

For previous introduction and description see No. 79159.

79224. *GENTIANA ASCLEPIADEA* L.
Milkweed gentian.

For previous introduction and description see No. 79160.

79225. *GENTIANA BARBATA* Froel.

An erect branched annual, native to Siberia, where it grows in damp situations. It is 3 to 18 inches high, with linear or lanceolate leaves and blue flowers.

79226 and 79227. *GENTIANA BAVARICA* L.

79226. For previous introduction and description see No. 79067.

79227. Variety *subacaulis*.

79228. *GENTIANA BIGELOVII* A. Gray.

A purple-flowered gentian, native to the southwestern United States, which

79185 to 79341—Continued.

forms large clumps with 40 to 50 stems over a foot high, bearing 10 to 20 flowers.

79229. *GENTIANA BRACHYPHYLLA* Vill.

For previous introduction and description see No. 79068.

79230. *GENTIANA BURSERI* Lapeyr.

A low alpine perennial, native to the Pyrenees, with an unbranched stem, less than a foot high, oval-elliptic leaves, and yellowish flowers with the corollas mostly six cut.

79231. *GENTIANA CALYCOSA* Griseb.

For previous introduction and description see No. 79069.

79232. *GENTIANA CLUSII* Perr. and Song.

For previous introduction and description see No. 79070.

79233. *GENTIANA CRUCIATA* L.

Cross gentian.

For previous introduction and description see No. 79162.

79234. *GENTIANA DAHURICA* Fisch.

For previous introduction and description see No. 79072.

79235. *GENTIANA DECUMBENS* L. f.

A stout erect perennial, up to 10 inches high, with oblong or elliptic leaves, mostly radical, and blue flowers. Native to the Himalayas.

79236. *GENTIANA DEPRESSA* D. Don.

A low, nearly stemless alpine perennial, native to the Himalayas, with broadly elliptic leaves about three-fourths of an inch long and small solitary blue flowers.

79237. *GENTIANA DETONSA* Rottb.

For previous introduction and description see No. 79073.

79238. *GENTIANA DINARICA* Beck.

An alpine gentian, native to the Austrian Alps, with broad thick erect leaves and dark-blue flowers.

79239. *GENTIANA ELEGANS* A. Nels.

An annual alpine gentian, about 8 to 12 inches high, with numerous simple stems, each terminated by a single deep-blue flower 2 inches long. Each stem bears three to six pairs of obovate or oblong leaves. Native to the western United States.

79240. *GENTIANA EXCISA* Presl.

A stemless alpine gentian, native to the Austrian Alps, about 3 inches high, with elliptic-oblong leaves and rather large blue flowers.

79241. *GENTIANA FARRERI* Balf. f.

For previous introduction and description see No. 79074.

79242. *GENTIANA FAVRATI* Rittner.

An alpine gentian, closely allied to *G. verna*, but distinguished by its very short stem, small roundish leaves in a rosette, and by the roundish shape of its petals. Native to the French Alps.

79243. *GENTIANA FETISOWII* Regel and Winkler.

Variety *alba*. A white-flowered form.

79185 to 79341—Continued.

For previous introduction and description see No. 79024.

79244. *GENTIANA FREYNIANA* Borum.

For previous introduction and description see No. 79075.

79245 and 79246. *GENTIANA FRIGIDA* Haenke.

79245. For previous introduction and description see No. 79026.

79246. Variety *alba*.

79247. *GENTIANA FROELICHII* Jan.

A short-stemmed, nearly tufted alpine gentian with solitary blue flowers. Native to the German Alps, where it is rare.

79248. *GENTIANA GENTIANELLA* A. T. Johnson. Stemless gentian.

For previous introduction and description see No. 78857.

79249. *GENTIANA GROMBEZEWSKII* Hort.

For previous introduction and description see No. 79027.

79250. *GENTIANA HOLOPETALA* (A. Gray) Holm.

A slender erect alpine plant, 2 to 16 inches high, with very narrow leaves and sky-blue flowers 1 inch or more long. Native to the Sierra Nevada Mountains of California.

79251. *GENTIANA HOOKERI* Griseb.

An alpine gentian, about 4 inches high, with oblong-spatulate leaves one-half inch long and flowers three-fourths of an inch long. It is native to South America.

79252. *GENTIANA IMBRICATA* Froel.

A low alpine perennial, native to limestone regions in the Swiss Alps, about 3 inches high, with acute leaves and blue flowers with crenate petals.

79253. *GENTIANA KESSELRINGI* Regel.

For previous introduction and description see No. 79076.

79254. *GENTIANA KOCHIANA* Perr. and Song.

For previous introduction and description see No. 79077.

79255. *GENTIANA LAGODECHIANA* Hort.

For previous introduction and description see No. 79079.

79256. *GENTIANA MOORCROFTIANA* Wall.

A stiff upright annual, native to the Himalayas, 8 to 16 inches high, with pale-blue flowers about 1½ inches across in nearly terminal clustered cymes.

79257. *GENTIANA NEWBERRYI* A. Gray.

A dwarf alpine gentian, native to the Sierra Nevada Mountains of California, with obovate or spatulate leaves and pale-blue flowers, white within, about an inch long.

79258. *GENTIANA OLIVIERI* Griseb.

A herbaceous perennial, native to mountain pastures in the Himalayas, about 9 inches high, with dark-blue flowers in umbellike cymes.

79185 to 79341—Continued.

79259. *GENTIANA PANNONICA* Scop.

A tall, stout perennial, native to Europe, with broadly elliptical to narrowly ovate leaves and flowers which are purple above.

79260. *GENTIANA PARRYI* Engelm.

For previous introduction and description see No. 79082.

79261. *GENTIANA PHLOGIFOLIA* Schott and Kotschy.

For previous introduction and description see No. 79083.

79262. *GENTIANA PNEUMONANTHE* L.

For previous introduction and description see No. 79163.

79263. *GENTIANA PRZEWALSKII* Maxim.

For previous introduction and description see No. 79086.

79264. *GENTIANA PTEROCALYX* Franch.

An annual alpine gentian, native to Yunnan, China, 1 foot or more high, with ovate-cordate leaves and intense blue flowers more than 2 inches long.

79265. *GENTIANA PUMILA* Jacq.

A very small alpine gentian, almost mosslike, with small clustered leaves and solitary, terminal deep-blue flowers. It is native to the Tyrolean Alps.

79266. *GENTIANA PUNCTATA* L.

For previous introduction and description see No. 79087.

79267. *GENTIANA PURDOMI* Hort.

For previous introduction and description see No. 79088.

79268 and 79269. *GENTIANA PURPUREA* L.

79268. For previous introduction and description see No. 79089.

79269. Variety *nana*.

79270. *GENTIANA PYRENAICA* L.

A tufted alpine perennial, native to Europe and Asia Minor, often forming mats, with leaves having a cartilaginous margin and solitary dark-blue flowers about 1 inch long.

79271. *GENTIANA ROSTANI* Reut.

A low herbaceous alpine perennial, native to central Europe, about 3 inches high, with bowl-shaped, blue flowers.

79272. *GENTIANA SCEPTRUM* Griseb.

An erect leafy perennial, native to northwestern North America, 2 to 4 feet high, with oblong-lanceolate leaves and bell-shaped, dark-blue flowers 1 inch long.

79273. *GENTIANA SCHISTOCALYX* Koch.

An upright perennial, native to Asia Minor, 2 feet or more high, with oval-lanceolate, long-pointed leaves 3 inches in length and flowers 1½ inches long.

79274 to 79278. *GENTIANA SEPTEMFIDA* Pall.

79274. For previous introduction and description see No. 79091.

79185 to 79341—Continued.

79275. Variety *angustifolia*.

79276. Variety *cordifolia*. A variety native to Armenia, with heart-shaped leaves.

79277. Variety *latifolia*.79278. Variety *splendida*.79279. *GENTIANA STRAMINEA* Maxim.

For previous introduction and description see No. 79093.

79280. *GENTIANA SIKKIMENSIS* C. B. Clarke.

A perennial alpine, native to the mountains of Sikkim, with decumbent stems, elliptic or rounded leaves, and terminal heads of blue flowers.

79281. *GENTIANA TIBETICA* King.
Himalayan gentian.

For previous introduction and description see No. 79028.

79282 to 79285. *GENTIANA VERA* L.

79282. For previous introduction and description see No. 78862.

79283. Variety *alba*.79284. Variety *azurea*.79285. Variety *grandiflora*.79286. *GENTIANA WALUJEWI* Regel and Schmalh.

For previous introduction and description see No. 79095.

79287 to 79291. *PEDICULARIS* spp. Scrophulariaceae. Woodbetony.79287. *PEDICULARIS FOLIOSA* L.

An alpine perennial, native to central Europe, with simple stems 1 to 3 feet high, with pinnatifid leaves, and a dense spike of cream-colored flowers.

79288. *PEDICULARIS PALUSTRIS* L.
European woodbetony.

A marsh-loving herbaceous perennial, native to Europe, about 2 feet high, with thick roots, pinnately parted leaves, and rather large purplish flowers in spike-like racemes.

79289. *PEDICULARIS RACEMOSA* Dougl.

A herbaceous alpine perennial, native to western North America, a foot or more high, with narrow undivided leaves and spikes of long-beaked white flowers.

79290. *PEDICULARIS TUBEROSA* L.

A perennial alpine, native to Switzerland, about a foot high, with a tuberous root and yellow flowers.

79291. *PEDICULARIS VERTICILLATA* L.

A moisture-loving alpine perennial, native to Europe, up to a foot high, with purplish flowers arranged in whorls.

79292 to 79341. *SEDUM* spp. Crassulaceae. Stonecrop.79292. *SEDUM AIZOON* L.
Aizoon stonecrop.

Variety *mandschuricum*. A glabrous perennial, 1 to 2 feet high, with erect unbranched stems, alternate oblong-lanceolate leaves, coarsely toothed, and numerous yellow flowers in loose cymes.

79185 to 79341—Continued.

79293. *SEDUM AMPLEXICAULE* DC.

An evergreen alpine succulent perennial, native to the Mediterranean region, with ascending branches up to 4 inches long and numerous golden-yellow flowers in 2-forked cymes.

79294. *SEDUM ANACAMPSEROS* L.
Shy stonecrop.

An evergreen glaucous perennial succulent, native to central Europe, with cordate auricled red-margined leaves and numerous small pale-violet flowers in dense globose cymes borne on erect reddish stems 6 to 8 inches high.

79295. *SEDUM ANGLICUM* Huds.

A low evergreen fleshy perennial, native to western Europe, about 3 inches high, with trailing barren shoots forming dense masses. The small white or rosy flowers are in small cymes.

79296. *SEDUM ANOMALUM* Britton.

A decumbent or ascending low succulent with spatulate obtuse leaves about four-fifths inch long, and bright yellow flowers in cymes 1 inch across. It is native to California.

79297. *SEDUM ANOPETALUM* DC.

For previous introduction and description see No. 78950.

79298. *SEDUM ATHOUM* DC.

An erect perennial succulent, native to the mountains of Greece, about 4 inches high, with pale rose-colored flowers.

79299. *SEDUM ATROPURPUREUM* Turcz.

A hardy succulent perennial, native to eastern Siberia, with obovate spatulate leaves. The short racemes of small flowers are dark purple throughout, excepting the anthers which are yellow.

79300. *SEDUM BOLONIENSE* Loisel.

A glabrous succulent perennial, native to Europe, 2 to 3 inches high, with linear-cylindrical leaves crowded into six or seven rows, and yellow flowers, one-half inch across, in a branched umbellate cyme.

79301. *SEDUM TELEPHIUM BORDERI* Masters.
Liveforever.

For previous introduction and description see No. 78963.

79302. *SEDUM BREVIFOLIUM* DC.
Shortleaf stonecrop.

A fleshy perennial, native to France, about 4 inches high, of caespitose habit, with crowded ovoid, pinkish, densely mealy pubescent leaves, and whitish flowers in a 2-forked or 3-forked cyme.

79303. *SEDUM CARPATICUM* Reuss.

A white-flowered succulent perennial, native to the Carpathian Mountains, about 10 inches high.

79304. *SEDUM CORSICUM* Duby.

A low fleshy perennial, native to Corsica, about 3 inches high, with crowded, very small gray-green leaves densely pubescent, and small white flowers in lax cymes.

79185 to 79341—Continued.

79305. *SEDUM DASYPHYLLUM* L.
Leafy stonecrop.

For previous introduction and description see No. 79181.

79306. *SEDUM DOUGLASI* Hook.

An annual succulent, native to northwestern North America, with an erect stem about 8 inches high, linear subulate leaves, and small yellow flowers in a branched cyme.

79307. *SEDUM EUPHORBIODES* Schlecht.

A hardy succulent perennial, native to northern Siberia, nearly 1 foot high, with crowded linear-oblong leaves and small flowers in short terminal racemes.

79308. *SEDUM FABARIA* Koch.

An alpine succulent, native to Europe, with upright stems 8 to 16 inches high, flat grass-green leaves, and lilac-purple flowers in a dense terminal corymb.

79309. *SEDUM GATTEFOSSEI* Batt.

A low delicate annual succulent, native to Morocco, about 2 inches high, with graceful stems, alternate spatulate or oblong leaves, and small yellow flowers in terminal cymes.

79310. *SEDUM GLAUCUM* Lam.

A succulent perennial, native to Europe and North Africa, 2 to 4 inches high, with tufted slender stems, crowded, oblong, or roundish leaves, and small white or pinkish flowers in few-flowered cymes.

79311. *SEDUM GRACILE* Haensel.

A low stemless alpine succulent, native to Spain, with a tuft of terete obtuse leaves and cymes of small white flowers.

79312. *SEDUM HIRSUTUM* All.

A low hairy alpine succulent, native to central Europe, with reddish stems, alternate sessile leaves, and small white flowers which have purple lines.

79313. *SEDUM JACCARDI* Hort.

An ornamental succulent.

79314. *SEDUM LAGGERI* Hort.

An ornamental succulent.

79315. *SEDUM LEBLANCEI* Hamet.

An ornamental annual succulent, native to southwestern China, with erect graceful stems about 5 inches high, obovate-linear leaves, and dense corymbs of small flowers.

79316. *SEDUM MAGELLEENSE* Tenore.

An alpine perennial, native to Asia Minor, of caespitose habit, with crowded flat obovate fleshy leaves and pinkish-white flowers in paniclelike racemes.

79317. *SEDUM MAXIMUM* Suter.
Great stonecrop.

For previous introduction and description see No. 78957.

79318. *SEDUM MIDDENDORFFIANUM* Maxim.
Middendorff stonecrop.

For previous introduction and description see No. 79046.

79185 to 79341—Continued.

79319. *SEDUM MURALE* Hort.

A succulent said to have dark leaves and white flowers with a pink center.

79320. *SEDUM NEVII* A. Gray.

A caespitose succulent perennial, native to the southeastern United States, with erect flower stems 2 to 5 inches high, obovate-spatulate leaves in rosettes, and numerous white flowers, nearly one-half inch across, in forked cymes.

79321. *SEDUM NICAENSE* All.

A glabrous succulent perennial, native to the Mediterranean region, with a thick woody rootstock, ascending stems 6 to 8 inches long, oval-lanceolate leaves, and greenish-yellow flowers, one-half inch across, in terminal cymes.

79322. *SEDUM NUTTALLIANUM* Rafin.

An annual simple or branched succulent, native to the southern United States, 2 to 4 inches high, with scattered flat or somewhat terete oblong leaves, and cymes of small yellow flowers.

79323. *SEDUM OBTUSIFOLIUM* Meyer.

A perennial alpine, native to the Caucasus, with erect stems, rounded-oval leaves, and small white flowers in elongated leafy cymes.

79324. *SEDUM OCHROLEUCUM* Vill.

A succulent alpine, native to France, with oblong-acute crowded leaves and small white flowers.

79325. *SEDUM PALMERI* S. Wats.

An erect perennial, about 6 inches high, with succulent flattened leaves 1 inch or more long and deep-orange flowers in a branched panicle. It is native to Mexico.

79326. *SEDUM PILOSUM* Bieb.

For previous introduction and description see No. 78958.

79327. *SEDUM PSEUDOSPECTABILE* Praeger.

A fleshy perennial, native to northeastern China, about 20 inches high, with ovate or obovate sessile leaves about 1½ inches long, and rose-colored flowers, not quite one-half inch long, in compact terminal clusters.

79328. *SEDUM PURPURASCENS* Koch.

An erect succulent perennial, native to central Europe, 12 to 18 inches high, with scattered oblong-ovate leaves 2 to 3 inches long and numerous pink or white flowers in dense cymes.

79329. *SEDUM ROSEUM* (L.) Scop. (*S. rhodiola* DC.) Roseroot stonecrop.

A perennial succulent, native to Europe, with a thick fleshy rootstock that exhales the odor of rose water. The stems are 4 to 8 inches high, with scattered glaucous spatulate leaves an inch long, and flat-topped cymes of greenish or reddish-purple flowers.

79330. *SEDUM RUBENS* L.

A low succulent, native to the Mediterranean countries, about 3 inches high, with small pinkish or white flowers.

79185 to 79341—Continued.

79331. *SEDUM SELSKIANUM* Regel and Maack.

A spreading hairy fleshy perennial, native to northeastern Asia, 1 foot or more high, with lanceolate-sessile leaves and numerous yellow flowers in a much-branched terminal leafy hollow-topped cyme.

79332. *SEDUM SEMPERVIVUM* Ledeb.

A pubescent biennial succulent, native to Asia Minor, 2 to 8 inches high, with 40 to 50 obovate leaves in a basal rosette and scarlet flowers in a dense-panicled cyme.

79333. *SEDUM SPATHULIFOLIUM* Hook.

A succulent glaucous perennial, native to northwestern North America, finally reddish, with the leaves of the barren shoot forming terminal rosettes 1½ inches in diameter. The numerous yellow flowers, one-half inch across, are borne in terminal forking cymes.

79334. *SEDUM STAHLII* Solms.

Stahl stonecrop.

A trailing much-branched succulent perennial, native to Mexico, with green or pinkish stems 4 to 6 inches high, opposite nearly terete leaves, and yellow flowers in terminal cymes.

79335. *SEDUM STELLATUM* L.

A low succulent annual, native to Europe, about 3 inches high, with a rosette of flat roundish leaves and lax cymes of reddish or purplish flowers.

79336. *SEDUM STENOPETALUM* Pursh.

A tufted fleshy perennial, native to western North America, 3 to 6 inches high. The crowded sessile leaves are linear or lanceolate, and the bright-yellow flowers are in much-branched scorpioid cymes.

79337. *SEDUM STRIBERNYI* Velen.

A succulent perennial, native to Bulgaria, laxly caespitose, with ascending stems 4 to 6 inches long, oblong-terete leaves, and small yellow flowers in compound cymes.

79338. *SEDUM EWERSII* Ledeb.

Violet stonecrop.

Variety *Turkestanicum*. A form said to be 4 inches high, with deep-violet flowers, and and to be hardy in Massachusetts.

79339. *SEDUM VILLOSUM* L.

A low fleshy annual, native to the mountains of central Europe, 3 to 4 inches high, with simple erect stems hairy above and alternate linear leaves. The dull rose or white flowers are in a small loose terminal cyme.

79340. *SEDUM WOODWARDI* N. E. Brown.

A perennial succulent, perhaps native to China, with simple green stems 1 foot high, alternate lax obliquely obovate flat leaves, and yellow flowers, about one-half inch across, in loose cymes.

79341. *SEDUM YUNNANENSE* Franch.

A succulent plant, native to southwestern China, 1 to 2 feet high, with a thick rhizome, a whitish stem, opposite sessile rounded-oval leaves, and small yellow flowers in cymes.

79342 to 79349. *AVENA* spp. Poaceae.

Oats.

From Sydney, New South Wales, Australia. Seeds presented by H. Wenholz, director of plant breeding in the New South Wales Department of Agriculture. Received March 12, 1929.

New hybrids which are not entirely resistant to crown rust, but have a large measure of resistance under conditions which favor this disease in Australia.

79342. *AVENA* sp.

Bombo. A cross between Abruzzi and Victory, maturing late in the season.

79343. *AVENA* sp.

Boppy. A midseason variety which is a cross between two strains of White Ligowo and Algerian.

79344. *AVENA* sp.

Buddah. A selection from Sunrise, maturing very early in the season.

79345. *AVENA* sp.

Gidgee. A very early variety of similar breeding to Boppy [No. 79343].

79346. *AVENA* sp.

Kendall. A selection from Ruakura, maturing early in the season.

79347. *AVENA* sp.

Kurri. A selection from Ruakura, maturing early in the season.

79348. *AVENA* sp.

Laggan. A selection from Kelsall's, maturing very early.

79349. *AVENA* sp.

Lampton.

79350 to 79359. *SOLANUM MELONGENA* L. Solanaceae. Eggplant.

From Nishigahara, Japan. Seeds presented by Dr. H. Ando, Director, Imperial Agricultural Experiment Station. Received March 12, 1929.

79350. *Kintyaku*.79351. *Okute-yamanasu*.79352. *Otosi*.79353. *Saitama-sinnasu*.79354. *Siro-nasu*.79355. *Tama-sinnasu*.79356. *Tiba-wase*.79357. *Turuboso-sennari*.79358. *Wase-marunasu*.79359. *Wase-sennari*.79360 to 79365. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

From Portici, Italy. Scions presented by Prof. Gaetano Briganti, R. Istituto Superiore Agrario. Received March 19, 1929.

79360. *Abbate*.79361. *Cerasiello*.79362. *Cipolla* or *Zepolle*.79363. *Del Prete*.79364. *Meraviglia lunga*.79365. *Meraviglia tonda*.

79366 to 79377.

From Nagpur, Central Provinces, India. Seeds presented by D. N. Mahta, second economic botanist. Received February 25, 1929.

79366 to 79373. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

79366. A late variety.

79367. An early variety.

79368. A late variety.

79369. *Calcutta*.

79370. Received without notes.

79371. A variety with purple flesh.

79372. A variety with red flesh.

79373. A variety with white flesh.

79374 to 79377. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

79374. Mixed melon seeds.

79375. *Jalgaon*.79376. *Piria*.79377. *Kharkhara*.79378 to 79419. *ORYZA SATIVA* L. Poaceae. Rice.

From China. Seeds collected by F. A. McClure, Lingnan University, Canton. Received March 11, 1929.

Nos. 79378 to 79381 were collected in November, 1928, and are white, starchy, beardless varieties of the second crop.

79378. No. 1055. *Yau chim*. From Ngfungts'uen, Honam Island.79379. No. 1056. *Chuk chim*. From the Agricultural College of the Lingnan University, Canton.79380. No. 1057. *Paak hok yau chim*. From the Agricultural College of the Lingnan University, Canton.79381. No. 1058. *Kam fung (chim)*. From Sunfungwong village, Honam Island.

Nos. 79382 to 79402 were collected during November, 1928.

79382. No. 1059. *Oo tuk noh*. From Hato, Honam Island. A white, glutinous, beardless variety of the second crop. It takes its name "black tip glutinous" from the dark markings on the glumes.79383. No. 1060. *Tin tau taai noh*. Near Lingnan University, Canton, China.

79384 and 79385. From Ngfungts'uen, Honam Island. Two strains of white starchy rice obtained in the same field.

79384. No. 1061. *Paak hok yau chim*. A beardless variety.79385. No. 1062. *Paak hok yau chim*. A bearded variety.79386. No. 1063. *Taai kwat yau chim*. Near Lingnan University. A white, starchy, beardless variety of the second crop.79387. No. 1064. *Paak hok tsai*. From Hato, Honam Island. A white, starchy, beardless variety of the second crop.

78378 to 79419—Continued.

79388. No. 1065. *Tsai (chai) mei tavi noh* (compact headed large glutinous). From Hato, Honam Island. A white, glutinous, beardless variety of the second crop.

Nos. 79389 to 79391 are white, starchy, beardless varieties of the second crop.

79389. No. 1066. *Fa hok kam fung*. From Shat'au, Honam Island.

79390. No. 1067. *Noh chaap chim*. From Ngfungts'uen, Honam Island.

79391. No. 1068. *Paak hok ham fung*. From Shat'au, Honam Island.

79392. No. 1069. *Paak hok noh*. From Honglok, Honam Island. A white, glutinous, beardless variety of the second crop.

79393. No. 1070. *Noh chaap*. From Shuipo, Honam Island. A white, starchy beardless variety of the second crop.

79394. No. 1071. *Kam fung tsai*. From Shat'au, Honam Island. A white starchy, semibearded variety of the second crop.

79395. No. 1072. *She chim*. From Ngfung, Honam Island. A white starchy, beardless variety of the second crop.

79396. No. 1073. *Uen chu noh*. From Paanchikaau, Honam Island. A white, glutinous, beardless variety of the second crop.

79397. No. 1074. *Yau chim noh*. From Paanchikaau, Honam Island. A white, glutinous, semibearded variety of the second crop.

79398. No. 1075. *T'aa'n t'au noh*. From Lekkau, Honam Island. A white, glutinous, beardless variety of the second crop.

79399. No. 1076. *Ma mei noh*. From Lekkau, Honam Island. A white, glutinous, beardless variety of the second crop.

79400. No. 1077. *Heung mai* (fragrant rice). From Shuipo, Honam Island. A white, starchy, beardless variety of the second crop.

79401. No. 1078. *Paak hok noh chaap*. From Lekkau, Honam Island. A white, semibearded starchy variety of the second crop.

79402. No. 1080. *Yuk shau k'au* (Hydrangea). From Lekkau, Honam Island. A white, beardless, starchy variety of the second crop.

79403. No. 1081. *Suet chim*. From Yunghui, Kwangsi Province, December 9, 1929. A red-grained, bearded, starchy variety of the second crop.

Nos. 79404 to 79408 were collected during October, 1928.

79404. No. 1082. *Paak hok yau chim*. From Pokhaneung, Tsangsheng district, Kwangtung Province. A white-grained, beardless, starchy rice of the second crop.

79405. No. 1083. *Chek mai sz miu*. From Cheungkongmei, Tsangsheng district, Kwangtung Province. A red-grained, beardless, starchy variety of the second crop.

79406. No. 1084. *Wong hok yau chim*. From Sheungto, Tsangsheng district,

78378 to 79419—Continued.

Kwangtung Province. A white-grained, beardless, starchy variety of the second crop.

79407. No. 1085. *Wong chim*. From Pokha, Tsangsheng district, Kwangtung Province. A white-grained, starchy, beardless variety of the second crop.

79408. No. 1086. *Yau chim noh*. From Pokha, Tsangsheng district, Kwangtung Province. A white-grained, beardless, glutinous variety of the second crop.

Nos. 79409 to 79419 were collected during November, 1928.

79409. No. 1087. *Paak noh tsai*. From Pokha, Tsangsheng district, Kwangtung Province. A white-grained, glutinous beardless variety of the second crop.

79410. No. 1088. *Chaan shui chim*. From Pokha, Tsangsheng district, Kwangtung Province. A white-grained, beardless, starchy variety of the second crop.

79411. No. 1089. *Wong hok sz miu*. From Chohk'ai, Tsangsheng district, Kwangtung Province. A white-grained, beardless, starchy variety of the second crop.

79412. No. 1090. *Paak hok chek*. From Pokha, Tsangsheng district, Kwangtung Province. A red-grained, semibearded, starchy variety of the second crop.

79413. No. 1091. *Wong hok noh*. From Pokha, Tsangsheng district, Kwangtung Province. A white-grained, beardless, glutinous variety of the second crop.

79414. No. 1092. *Lung moon chek*. From Pokha, Tsangsheng district, Kwangtung Province. A red (pink)-grained, beardless, starchy variety of the second crop.

79415. No. 1093. *Lo chim*. From Pokha, Tsangsheng district, Kwangtung Province. A red-grained, beardless, starchy variety of the second crop.

79416. No. 1094. *Kai chue noh*. From Cheungkongmei, Tsangsheng district, Kwangtung Province. A white-grained, beardless, glutinous variety of the second crop.

79417. No. 1095. *So tsai chek*. From Pokha, Tsangsheng district, Kwangtung Province. A red-grained, bearded, starchy variety of the second crop.

79418. No. 1096. *Shui nga chim*. From Chohk'ai, Tsangsheng district, Kwangtung Province. A white-grained, beardless, starchy variety of the second crop.

79419. No. 1097. *Taai noh tsai*. From Tongt'auha, Tungkoan district, Kwangtung Province. A white-grained, beardless, glutinous variety of the second crop.

79420 to 79453.

From Japan. Scions obtained by R. K. Beattie, Bureau of Plant Industry. Received March 13, 1929.

79420 to 79449. *CASTANEA CRENATA* Sieb. and Zucc. Fagaceae. Japanese chestnut.

79420 to 79453—Continued.

Scions collected in January, 1929, of cultivated varieties unless otherwise stated.

79420. No. 814. *Ganne*. Nuts from Sakaue Mura, Kuka Gun, Yamaguchi Ken, presented by Shigeo Hayashi.

79421 to 79429. From Tateno Farm, Nogi Mura, Shimotsuga Gun, Tochigi Ken.

79421. No. 815. *Butsake*.

79422. No. 816. *Hassaku*.

79423. No. 817. *Ichimon*.

79424. No. 818. *Inukoroshi*.

79425. No. 819. *Mino*.

79426. No. 820. *Motokichi* No. 1.

79427. No. 821. *Odai*.

79428. No. 822. *Osaya*.

79429. No. 823. *Wase tamba*.

79430 to 79439. From the Okitsu Agricultural Experiment Station.

79430. No. 824. *Bon I*.

79431. No. 825. *Buzen*.

79432. No. 826. *Dai hachi*.

79433. No. 827. *Dengoro*.

79434. No. 828. *Kambel*.

79435. No. 829. *Obi wase*.

79436. No. 830. *Ogawa ichigo*.

79437. No. 831. *Ogawa teteuchi*.

79438. No. 832. *Tsunehisa*.

79439. No. 833. *Yakko*.

79440 to 79447. From the Ayabe Machi Agricultural Experiment Station at Kyoto.

79440. No. 839. *Sakahara*.

79441. No. 840. *Goku wase*.

79442. No. 841. *Kamadani okute*.

79443. No. 842. *Suginobo*.

79444. No. 843. *Nishi gaki*.

79445. No. 844. *Obata*.

79446. No. 845. *Futakura*.

79447. No. 846. *Otomune*.

79448 and 79449. From Sakaue Mura, Kuka Gun, Yamaguchi Ken; presented by Shigeo Hayashi.

79448. No. 847. *Ganne*.

79449. No. 848. *Yokobai*.

79450 to 79453. DIOSPYROS KAKI L. f. *Kaki*, Diospyraceae.

From the Okitsu Agricultural Experiment Station.

79450. No. 835. *Sushi*. Originally from Keisho Hokudo, Chosen.

79451. No. 836. *Panshi*. Originally from Keizan.

79452. No. 837. *Shakokushi*. Originally from Shakoku.

79453. No. 838. *Kojomshi*. Originally from Hoki.

79454 to 79461.

From Viçosa, Minas Geraes, Brazil. Presented by Prof. P. H. Rolfs, Escola Superior de Agricultura e Veterinaria de Minas Geraes. Received March 16, 1928.

79454 to 79459. CITRUS spp. Rutaceae.

79454. CITRUS sp.

Cacau. Scions of an apparent sport from the Selecta. Tree upright stocky grower, very vigorous and prolific. Fruits orange when ripe, ripening about the same time as Pineapple; skin rather thick and corrugated; seeds 15 to 30; eating quality excellent. Some of the buds show reversion to Selecta type.

79455. CITRUS sp.

Civó, or willow twigged. Scions of a highly ornamental as well as useful variety of orange which has the peculiar habit of the limbs growing pendent, like a weeping willow. It must be budded high on the stock for the best effect because, if budded near the ground, it forms a low creeping bush. The fruits are disposed laterally on the branches, making, when ripe, a wreath of oranges of a deep orange-red. They are of superior flavor and ripen about midseason, which is about the time Pineapple ripens, and they remain in prime condition for a much longer time than the commercial orange. The skin is thin and smoother, and the seeds very few, running from 2 or 3 to 20.

79456. CITRUS sp.

Lancetta. Said by Doctor Caire to have originated from a bud sport found among Pera. (Oblong form Valencia type.) Fruits small, very sweet and delicious, ripening very late in the year.

79457. CITRUS sp.

Lima Paulista. Type of tree and habit of growth similar to Tanger. Fruits flattened, very sweet when ripe, thin skinned, and contain few seeds.

79458. CITRUS sp.

Limão Inherme. Habit of growth of tree similar to Lima Paulista and Tanger. Fruits more oblong than Lima Paulista, about the size and shape of some of the larger Mexican limes, and ripen continuously throughout the year. The flavor is quite distinct from that of the Mexican lime.

79459. CITRUS sp.

Tanger. A very peculiar and desirable type of orange, said to have been named after the city of Tangier. It apparently does not belong to the *Citrus sinensis* species. The leaves are small and the petioles very small, giving the tree a very peculiar appearance. The fruits, produced in clusters, are about the size and color of tangerines and are sweet and delicious, containing 20 or more seeds.

79460 and 79461. MANGIFERA INDICA L. Anacardiaceae. **Mango.**

79460. Seeds.

79461. *Sabiana*. Seeds.

79462 to 79502.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received March 19, 1929.

79462 to 79469. AGAVE spp. Amaryllidaceae. Agave.

79462. AGAVE ALBICANS Jacobi.

A trunkless, cespitose agave, native to Mexico, with spreading, glaucous, thin oblanceolate leaves about a foot long, with close-set minute brown marginal prickles and a terminal needle-like small spine. The reddish green flowers, in pairs, are a little over 1 inch long and are on a spike 3 feet high.

79463. AGAVE ELLEMEETIANA Koch.

A nearly trunkless plant with spreading lanceolate unarmed leaves about 2 feet long, and paired greenish white flowers, about 1 inch long, in a spike-like inflorescence 5 to 10 feet high. Native to Mexico.

79464. AGAVE FRANZOSINI Baker.

An agave with roughish, white, recurved ascending lanceolate leaves up to 8 feet long, armed with dark-gray marginal prickles and a large terminal spine. The tall green flower stem, 30 to 40 feet high, bears flowers over 3 inches long. It is probably native to Mexico.

79465. AGAVE LOPHANTHA Schiede. Crested agave.

An agave, native to eastern Mexico, with spreading, glossy green lanceolate leaves a foot or more long, with small hooked marginal prickles and terminating in a brown grooved spine. The flowers, 1½ inches long, are borne on a spike 9 to 15 feet high.

79466. AGAVE POLYACANTHA Haw.

A cespitose plant, native to southern Mexico, with lanceolate, upcurving leaves sometimes 3 feet long, terminating in a stout spine and margined with close-set brown prickles. The flowers, 2 inches long, are in a spikelike inflorescence 4 to 5 feet high.

79467. AGAVE SALMIANA Otto.

An agave with gray-green very thick leaves about 3 feet long, with an elongated gray terminal spine and triangular marginal teeth. The scape is covered with long, somewhat spreading bracts. Native to Mexico.

79468. AGAVE TEQUILANA Web.

A stemless century plant with straight, rather stiff leathery gray-green leaves about 3 feet long and 3 inches wide, terminating in a short stout spine. The flower stem is about 20 feet high, with about 30 floral branches. Native to southern Mexico.

79469. AGAVE VICTORIAE-REGINAE T. Moore.

An agave, native to northeastern Mexico, with 3-angled short, stiff, triangular dark-green leaves about 7 inches long, ending in a short black spine, and a slender compact flowering spike 10 to 12 feet high.

79470 to 79473. ALOE spp. Liliaceae.

79470. ALOE ARBORESCENS Mill.

An arborescent succulent with a simple trunk 10 to 15 feet high,

79462 to 79502—Continued.

clothed at the top with dull-green sinuately spreading gradually narrowed leaves about 2 feet long, with prickly margins. The red flowers are in an elongated raceme. It is probably a native of the Cape of Good Hope.

79471. ALOE SAPONARIA (Ait.) Haw.

An aloe from the Cape of Good Hope which grows in cespitose clusters, with ascending, oblong-lanceolate acuminate leaves about 7 inches long, often reddish with pale blotches, and with large confluent brown marginal teeth. The red flowers are in a branched inflorescence 1 or 2 feet high.

79472. ALOE STRIATA Haw.

A low fleshy plant with a dense rosette of thick narrowly oblong leaves 1 or 2 feet long, obscurely spotted, and bright-red flowers about 1 inch long, in 20 or more heads borne on a stout, branched peduncle. Native to South Africa.

79473. ALOE STRIATA × ?.

Seeds of a hybrid aloe of which only one parent is known.

79474. DAPHNE GNIDIUM L. Thymelaeaceae.

For previous introduction see No. 79205.

79475. GASTERIA OBTUSIFOLIA (Salm-Dyck) Haw. Liliaceae.

A low fleshy South African plant with a leafy stem 2 inches high, densely crowded tongue-shaped leaves 4 to 6 inches long, and rosy flowers in a raceme over a foot long.

79476. GASTERIA VERRUCOSA Haw. Liliaceae.

A cespitose succulent, native to the Cape of Good Hope, with spreading, somewhat concavely 3-sided, dull-gray acute leaves about 4 inches long, roughened by white tubercles, and rosy flowers about an inch long in an inflorescence 2 feet high.

79477 to 79479. KALANCHOE spp. Crassulaceae.

79477. KALANCHOE CRENATA Haw.

For previous introduction and description see No. 79166.

79478. KALANCHOE GLAUCESCENS Britten.

A plant, native to tropical Africa, with a terete stem 2 feet or more high, narrowly oval irregularly crenate fleshy leaves 5 inches long, and red or dark-yellow flowers one-half inch long in a glaucous panicle.

79479. KALANCHOE SCHIMPERIANA A. Rich.

An Abyssinian succulent of cespitose habit, with obovate-spatulate crenate leaves and pale-yellow flowers, about 3 inches long, in a dense branching cyme.

79480 to 79492. MESEMBRYANTHEMUM spp. Aizoaceae. Figmarigold.

79480. MESEMBRYANTHEMUM ACINACIFORME L.

A fleshy plant with a jointed stem 2 to 3 feet high, opposite, scimitar-shaped leaves 2 to 3 inches long, with

79462 to 79502—Continued.

the keel dilated, and purple flowers, about 4 inches across, said to be the largest in the genus. The edible fruits about the size of a gooseberry, are eaten by the natives of South Africa.

79481. MESEMBRYANTHEMUM BLANDUM Haw.

An erect perennial succulent, 2 feet high, with numerous branches, compressed-triangular leaves 2 inches long or less, with minute dots and pale-rose or white flowers 2 inches across. It is native to the Cape of Good Hope.

79482. MESEMBRYANTHEMUM CORDI-FOLIUM L. f. **Heartleaf figmarigold.**

A diffuse-stemmed perennial, native to South Africa, 1 to 2 feet high, with opposite cordate leaves somewhat papillose and solitary purple daisylike flowers.

For previous introduction see No. 77228.

79483. MESEMBRYANTHEMUM CULTRATUM Salm-Dyck.

A low stemless succulent, native to South Africa, with thick 2-ranked, tongue-shaped leaves curved like a pruning knife, with a blunt apex, and yellow flowers on a somewhat 3-angled peduncle an inch or more high.

79484. MESEMBRYANTHEMUM DEPRESSUM Haw.

A stemless prostrate succulent, native to South Africa, with narrow, tongue-shaped, recurved-depressed acute leaves and yellow flowers with the petals somewhat recurved.

79485. MESEMBRYANTHEMUM DIFFORME L.

An almost stemless fleshy plant, native to South Africa, with obliquely cross-shaped, narrow, tongue-shaped punctate leaves about 2 inches long and solitary large yellow flowers.

79486. MESEMBRYANTHEMUM EDULE L.

A low, fleshy plant with an angular prostrate stem, opposite triquetrous curved leaves 3 to 4 inches long, with the keel serrate, and large yellow or purple flowers. The small edible fruits are the "figs" of the Hottentots in South Africa, where this plant is native. In California this species is used as a ground cover.

79487. MESEMBRYANTHEMUM HETEROPETALUM Haw.

A low succulent with erect-spreading stem and branches and glaucous, subfalcate leaves. The pale-red or whitish flowers are solitary. It is native to South Africa.

79488. MESEMBRYANTHEMUM LINGUIFORME L.

A low fleshy plant, with deflexed, somewhat falcate, and unequally tongued-shaped leaves, flattish above, and yellow flowers. It is native to South Africa.

79489. MESEMBRYANTHEMUM SALMII Haw.

A nearly stemless succulent from the Cape of Good Hope, with decussate attenuate leaves, one of each pair acute and the other oblique and blunt. The yellow flowers are sessile.

79462 to 79502—Continued.

79490. MESEMBRYANTHEMUM SERRULATUM Haw.

A rather shrubby plant, erect when young, with 3-angled fleshy thick leaves and purplish asterlike flowers. It is native to the Cape of Good Hope.

79491. MESEMBRYANTHEMUM SPECTABILE Haw.

A prostrate succulent, native to South Africa, with ascending branches, thick 3-sided linear leaves 2 to 3 inches long, and daisylike purplish flowers 2 inches across.

For previous introduction see No. 77237.

79492. MESEMBRYANTHEMUM UNCATUM Salm-Dyck.

A low, nearly stemless plant with narrow tongue-shaped fleshy leaves $2\frac{1}{2}$ inches long, hooked at the apex, and yellow flowers. It is native to South Africa.

79493 to 79502. STAPELIA spp. Asclepiadaceae.

Low fleshy cactuslike plants with coarsely 4-angled stems and large showy flat evil-smelling flowers.

79493. STAPELIA ATRATA Todaro.

The erect, 4-angled, fleshy stems of this plant are 2 to 6 inches high and are green and more or less mottled with purple. The one to five dark purple-brown flowers are 2 to 3 inches across, with acuminate-deltoid corolla lobes. It is native to South Africa.

79494. STAPELIA CILIOLULATA Todaro.

A robust plant with fleshy stems, up to 5 inches high, armed with short projecting lateral teeth. The flower, about 3 inches across, is bright yellow, with lighter spots, and the broadly triangular-oval lobes are marked with irregular brown spots. It is of garden origin.

79495. STAPELIA CLYPEATA Jacq.

An erect fleshy plant, with obtusely angled stems 2 to 6 inches high which are green, often mottled or tinted with purple. The flowers, single or as many as five at the bases of the young stems, are 2 or 3 inches across and are pale greenish yellow with dark purple-brown spots. It is native to South Africa.

79496. STAPELIA DISCOLOR Todaro.

A rather large carrion-flower with green, purple-tinged, sharply 4-angled stems 3 to 18 inches high, and one to three dark purple-brown flowers, about one-half inch across, marked with faint yellowish transverse lines. It is native to the Cape of Good Hope.

79497. STAPELIA DIVERGENS N. E. Brown.

A perennial succulent with 4-angled stems about 4 inches high and slightly wrinkled light-yellow flowers, 2 inches across, with thick ramified brown-crimson lines on the disk and lower two-thirds of the petals. It is a hybrid, of unknown parentage, raised in Europe.

79498. STAPELIA MUTABILIS Jacq.

A rather large carrion-flower, with green or purplish stems 3 to 18 inches

79462 to 79502—Continued.

high, acutely 4-angled and armed with stout conical teeth. The flower, about $1\frac{1}{2}$ inches across, has sharply recurved petals, which are pale greenish yellow, with the upper third purple brown. It is native to South Africa.

79499. *STAPELIA MUTABILIS* Jacq.

Variety *picta*.

79500. *STAPELIA PLANIFLORA* Jacq.

A freely branching succulent with erect 4-angled stems 2 to 6 inches high, armed with acute spreading teeth. The pale greenish-yellow flower, about 3 inches across, is irregularly purple spotted and is often lined with purple-brown. It is native to the coastal regions of South Africa.

79501. *STAPELIA RUGOSA* Jacq.

A fleshy plant with erect stems, obtusely 4-angled and armed with conical teeth. The flower, about $2\frac{1}{2}$ inches across, is greenish yellow with numerous scattered small purple spots and irregular transverse dark purple-brown lines. The outer corona lobes are acutely 3-toothed at the apex. It is native to South Africa.

79502. *STAPELIA TRIFIDA* Todaro.

A caespitose, fleshy plant, probably originally from South Africa, with 4-angled stems about 3 inches high. The purplish-violet flower is 3 inches across, with purple corolla tips and numerous transverse yellow lines.

79503 to 79505.

From Nancy, France. Seeds presented by Prof. Edmond Gain, director of the botanic garden of the Nancy University. Received March 18, 1929.

79503. *KITAIBELIA VITIFOLIA* Willd. Malvaceae.

For previous introduction and description see No. 79174.

79504. *OMPHALODES LINIFOLIA* (L.) Moench. Boraginaceae.

A summer-flowering annual plant a foot high, with wedge-shaped radical leaves, linear-lanceolate stem leaves, and lax racemes of white flowers. Native to dry stony hills of Spain and Portugal.

79505. *PETTERIA RAMENTACEA* (Sieber) Presl (*Cytisus weldeni* Vis.). Fabaceae.

For previous introduction and description see No. 79039.

79506 to 79521.

From Winchester, England. Plants purchased from Hillier & Sons, West Hill Nurseries. Received December 20, 1928. Numbered in March, 1929.

79506 to 79508. *BERBERIS* spp. Berberidaceae.

79506. *BERBERIS ATROCARPA* C. Schneid.

An ornamental shrub, native to western Szechwan, China, 3 to 5 feet high, with leathery evergreen leaves, shining green above and yellowish green beneath, and almost globose jet-black fruits.

For previous introduction see No. 76212.

79506 to 79521—Continued.

79507. *BERBERIS EMPETRIFOLIA* Pers.
Crow barberry.

For previous introduction and description see No. 78877.

79508. *BERBERIS HOOKERI* Lem.

An evergreen barberry, native to the Himalayas, where it is a dense shrub 3 to 5 feet high, with usually 3-parted spines, dark-green, leathery, spiny margined leaves, and cylindrical black-purple berries often persisting on the shrub until spring.

For previous introduction see No. 65232.

79509 to 79521. *BUXUS* spp. Buxaceae.

79509. *BUXUS HARLANDII* Hance.

A compact evergreen shrub, native to China, about 3 feet high, with obovate-oblong leaves, gradually narrowed toward the base, less than an inch long and one-fourth of an inch broad.

For previous introduction see No. 76558.

79510 to 79520. *BUXUS SEMPERVIRENS* L.
Common box.

79510. Variety *aurea maculata*.

79511. Variety *aurea pendula*.

79512. Variety *handsworthii*.

79513. Variety *latifolia macrophylla*.

79514. Variety *latifolia maculata*.

79515. Variety *myosotifolia*.

79516. Variety *myrtifolia*.

79517. Variety *prostrata*.

79518. Variety *pyramidalis*.

79519. Variety *rosmarinifolia*.

79520. Variety *salicifolia*.

79521. *BUXUS WALLICHIANA* Baill.

An evergreen shrub, native to the Himalayas, 10 feet high, with linear-lanceolate leaves 2 to 4 inches long.

79522. *AMYGDALUS COMMUNIS* L.
(*Prunus amygdalus* Stokes). Amygdalaceae.
Almond.

From Granada, Spain. Plants presented by Juan Leyva, through Austin C. Brady, American consul, Malaga. Received March 19, 1929.

Marcona.

79523 and 79524. *FICUS CARICA* L.
Moraceae.
Common fig.

From Balaguer, Lerida, Spain. Cuttings presented by Ramon Sala Roqueta. Received March 21, 1929.

79523. *Fraga*.

79524. *Layola blanca*.

79525. *ELAEODENDRON CAPENSE* Eckl. and Zeyh. Celastraceae.
False olive.

Plants grown from seeds presented by the Plant Quarantine and Control Administration. Received February 15, 1929.

79525—Continued.

An erect shrub, native to South Africa, with leathery ovate leaves 3 inches long and panicles of small white flowers followed by red drupes an inch long.

For previous introduction see No. 51144.

79526. WAHLENBERGIA BIVALVIS Merr.
Campanulaceae.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 27, 1929.

An erect glabrous branched annual up to 16 inches high, with sessile leaves and blue, bell-shaped flowers a quarter of an inch long. Native to the Philippine Islands.

79527. VIGNA SINENSIS (Torner) Savi.
Fabaceae. Cowpea.

From Tirana, Albania. Seeds presented by A. T. Fultz, Director, Albanian Vocational School of the American Junior Red Cross and Ministry of Education. Received March 15, 1929.

Seeds white with a black eye; from the market at Kavaji.

79528. NICOTIANA TABACUM L. Solanaceae.
Tobacco.

From New Guinea. Seeds presented by L. P. B. Armit, Port Moresby. Received March 25, 1929.

Mixed seeds from Autemba and Biagi, Kokoda district, northern division.

79529. ORCHIDANTHA MAXILLARIODES (Ridley) Schum. Musaceae.

From Glasnevin, Ireland. Plants presented by J. W. Besant, Director, Botanic Gardens. Received March 16, 1929.

A gingerlike stemless Malayan plant with oblong leaves about 8 inches long and panicles 1 to 2 feet high of rather showy purple flowers, resembling those of *Maxillaria*.

79530. ORCHIDANTHA LONGIFLORA (Scort.) Ridley. Musaceae.

From Singapore, Straits Settlements. Plants presented by R. E. Holtum, Director, Singapore Botanic Gardens. Received March 23, 1929.

A large stemless tropical plant, related to the banana and native to the Malay Peninsula, which forms huge tufts of lanceolate leaves 3 feet long. The solitary axillary flowers, about 8 inches in length, have long purple bracts and yellowish petals.

79531. AMARANTHUS VIRIDIS L. Amaranthaceae. Amaranth.

From Antigua, British West Indies. Seeds presented by A. E. Collens, Government Chemist and Superintendent of Agriculture. Received March 22, 1929.

A plant cultivated in Antigua and used in the same manner as spinach.

79532. LYCOPERSICON ESCULENTUM Mill. Solanaceae. Tomato.

From near Trujillo, Peru. Seeds presented by Ralph T. Gray, Estación Experimental Agrícola, Lima, Peru. Received March 28, 1929.

A wild Peruvian tomato collected by G. N. Wolcott, Estación Experimental Agrícola, Lima.

79533 to 79545.

From the West Indies. Seeds collected by Allison V. Armour. Received March 25, 1929.

79533. AMERIMNON LANCEOLARIUM (L. f.) Kuntze (*Dalbergia lanceolaria* L. f.). Fabaceae.

Dominican Botanic Gardens. A tree 60 to 80 feet high, native to India, with compound leaves made up of 11 to 15 elliptical rigidly subcoriaceous leaflets 2 inches long and terminal and axillary compound panicles of small purplish flowers followed by bright-brown flexible pods.

79534. BERRIA AMMONILLA Roxb. Tiliaceae.

Dominican Botanic Gardens. A large tree, native to southeastern Asia, with long-stemmed heart-shaped leaves and dense racemes of small white flowers. The hard durable dark-red wood is used for agricultural implements and is also exported under the name of trincomali wood.

For previous introduction see No. 63761.

79535. CAPSICUM ANNUUM L. Solanaceae. Common redpepper.

A very fine aromatic variety obtained in the market at Port au Prince, Haiti.

79536. CARICA PAPAYA L. Papayaceae. Papaya.

St. Lucia Botanic Gardens. An excellent local variety.

79537 to 79545. From the Dominican Botanic Gardens.

79537. CATALPA LONGISSIMA (Jacq.) Sims. Bignoniaceae.

For previous introduction and description see No. 78580.

79538. COLVILLEA RACEMOSA Boj. Caesalpiniaceae.

For previous introduction and description see No. 78604.

79539. EUTERPE EDULIS Mart. Phoenicaceae. Palm.

A palm, native to Brazil, 40 feet high, with a slender inclined trunk, pinnate leaves, and fruits the size of marbles. A nutritious beverage is made by the natives from the fibrous flesh surrounding the seeds.

For previous introduction see No. 66218.

79540. GARCINIA MORELLA (Gaertn.) Desr. Clusiaceae.

A small tree, 30 to 50 feet high, which is related to the mangosteen and may be of use as a stock. It is native to India.

For previous introduction see No. 58589.

79541. KLEINHovia HOSPITA L. Sterculiaceae.

A fine Dombeyalike shrub up to 50 feet high, with heart-shaped leaves 4 inches long and lax clusters of small rose-colored flowers followed by inflated papery pods an inch long. It is native to the East Indies.

For previous introduction see No. 54985.

79533 to 79545—Continued.

79542. ORMOSIA MONOSPERMA (Swartz)
Urban (*O. dasycarpa* Jacks). Fabaceae.
Necklace tree.

A tree with compound leaves of five pairs of oblong leaflets, large rusty tomentose panicles of small blue flowers, and ovoid tomentose pods each containing a globose red seed with a black blotch. It is native to the West Indies.

For previous introduction see No. 66232.

79543. PONGAMIA PINNATA (L.) W. F. Wight (*P. glabra* Vent.). Fabaceae.

A tall, erect shade tree or sometimes a climbing shrub native to tropical Asia, with compound leaves composed of five to seven pairs of oblong leaflets and simple racemes of white flowers. The woody pods are about one-fourth inch thick and 1½ inches long. Because of its bright, handsome foliage this tree has been recommended as an ornamental for subtropical regions. It is said to withstand hurricanes.

For previous introduction see No. 74584.

79544. THRINAX MORRISII Wendl. Phoenicaceae.
Morris thatch palm.

An attractive dwarf palm, native to the West Indies, up to 3 feet high, with palmate leaves which are glaucous on the under side and have the segments free for more than half their length.

For previous introduction see No. 78508.

79545. TOUNATEA SIMPLEX (Vahl) Taub. (*Swartzia grandiflora* Willd.). Caesalpiniaceae.

An ornamental shrub with a single oblong coriaceous leaflet, or occasionally three leaflets, and corymbs of three to five flowers each, having a single orbicular yellow petal an inch or more across.

79546. CINNAMOMUM MINDANAENSE
Elmer. Lauraceae.

From Jolo, Sulu, Philippine Islands. Seeds presented by Gov. Carl M. Moore, through P. J. Wester, Ballston, Va. Received November 10, 1926. Numbered in March, 1929.

Kami. A small erect tropical tree, up to 30 feet high, with slender branches, smooth pale-green bark, and small pointed leathery leaves. The inconspicuous flowers are followed by numerous small shining steel-blue fruits. The bark is very similar to the cinnamon of commerce, and the tree has possibilities as a source of cinnamon.

79547. CUDRANIA TRICUSPIDATA Bureau
Moraceae.

From Crescent, Ga. Cuttings obtained from James D. verger, through R. A. Young, Bureau of Plant Industry. Received March 5, 1928. Numbered in March, 1929.

A thorny shrub or small tree native to eastern Asia. The fruits, resembling clusters of red raspberries, are edible, and the plant has been recommended as a good

hedge plant for the Southern States. The extremely hard wood is used for tools, and the ovate, usually entire leaves are used in some sections to feed silkworms.

For previous introduction see No. 71304.

79548. DENDROCALAMUS MACROCULMIS
Hort. Poaceae. Bamboo.

From Algiers, Algeria, Africa. Culm presented by Dr. L. Trabut, Government botanist. Received March 29, 1928. Numbered in March, 1929.

A very distinct and valuable giant clump bamboo introduced from Cochín China by the Jardin des Plantes in Paris and sent to Algiers for trial, where there is now a splendid avenue in the Jardin d'Essais, of Algiers.

For previous introduction see No. 62251.

79549. GARCINIA sp. Clusiaceae.

From Buitenzorg, Java. Seeds presented by Dr. L. Koch, Chief, Plant Breeding Station for Annual Crops. Received October 19, 1928. Numbered in March, 1929.

An East Indian evergreen tree related to the mangosteen (*Garcinia mangostana*).

79550. ARACHIS HYPOGAEA L. Fabaceae.
Peanut.

From Caracas, Venezuela. Seeds presented by Dr. H. Pittier, Ministerio de Relaciones Exteriores, Museo Commercial. Received March 23, 1929.

A variety cultivated only in the State of Falcon, Venezuela. It is said to be exceptionally rich in oil.

79551 to 79554. TIGRIDIA PAVONIA (L. f.) Ker. Iridaceae.

Common tigerflower.

From Paris, France. Bulbs purchased from Vilmorin-Andrieux & Co. Received March 28, 1929.

79551. Variety *alba*. White flowers with red spots in the throat.

79552. Variety *conchiflora*. Bright-yellow flowers.

79553. Variety *lilacea*. Lilac flowers with a spotted center.

79554. Variety *speciosa rubra*. A somewhat dwarf form with deep-red flowers, the interior of the cup being the same color as the limb.

79555. PRATIA BEGONIFOLIA (Wall.) Lindl. Campanulaceae.

From Sumatra. Seeds collected by Prof. H. H. Bartlett, University of Michigan, Ann Arbor, Mich. Received July 20, 1927. Numbered in March, 1929.

No. 7525. Between Simakkoek and Simartoloe, on the trail from Asahan to Toba, north of the Asahan River, April 23, 1927. A creeping vine with small cordate denticulate leaves and purple fleshy fruits half an inch long.

79556 and 73557. QUERCUS CERRIS L.
Fagaceae. Turkey oak.

From Northwood, Middlesex, England. Seeds presented by R. C. B. Gardner. Received November 2, 1928. Numbered in March, 1929.

79556 and 79557—Continued.

79556. *D. Variety laciniata*.

For previous introduction and description see No. 78679.

79557. *E.*

For previous introduction and description see No. 78678.

79558. *SANDORICUM KOETJAPE* (Burm. f.) Merr. (*S. indicum* Cav.). Meliaceae. Santol.

From Manila, Philippine Islands. Seeds presented by S. Youngberg, Director, Bureau of Agriculture. Received September 5, 1928. Numbered in March, 1929.

A Philippine tree which becomes 80 feet high in its native country, with trifoliate hairy leaves and greenish yellow or straw-colored flowers. The chief value resides in its yellowish fruits which are rounded or flattened, about 2 inches in diameter, with rather large seeds inclosed in translucent, acid, edible pulp of good flavor. When peeled, quartered, and cooked in sirup the fruit makes a delicious preserve. This tree is not suited for cultivation in the United States except perhaps in the warmest parts of Florida.

For previous introduction see No. 58445.

79559. *TILMIA CARYOTAEFOLIA* (H. B. K.) O. F. Cook (*Martinezia caryotae-folia* H. B. K.). Phoenicaceae.

Palm.

From Summit, Canal Zone. Seeds presented by J. E. Higgins, Plant Introduction Garden. Received May 31, 1927. Numbered in March, 1929.

A graceful palm up to 30 feet high. native to tropical South America. The erect stem is slightly swollen at the base and is clearly ringed; these rings are armed with stiff black slender spines 2 or 3 inches long. The bright-green pinnate fronds are 4 to 5 feet long, spreading and drooping.

For previous introduction see No. 73822.

79560 to 79565.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, Director, Java Botanic Gardens. Received August, 1926, and May, 1927. Numbered in March, 1929.

79560. *ATTALEA SPECTABILIS* Mart. Phoenicaceae. Palm.

An ornamental Brazilian palm which is stemless or with a very short caudex. The erect spreading pinnate leaves are 18 to 21 feet long; the lower segments are 3 to 4 feet and the upper 12 to 16 inches long.

For previous introduction see No. 43056.

79561 to 79563. *BACCAUREA* spp. Euphorbiaceae.79561. *BACCAUREA DULCIS* Muell. Arg.

A tropical evergreen tree, 30 to 60 feet high, with smooth reddish-brown branches, alternate brownish oval-oblong leaves up to 7 inches long, reddish beneath, and round woody fruits about 1 inch in diameter in lax racemes. Native to the Malay Peninsula.

79562. *BACCAUREA MOTLEYANA* Muell. Arg.

79560 to 79565—Continued.

A large ornamental tropical Malayan evergreen tree with oval, entire, dark-green leaves 6 inches long and 4 inches wide and large clusters of small edible yellow berries of mildly acid flavor.

For previous introduction see No. 34495.

79563. *BACCAUREA NANIHUA* Merr.

A tropical Asiatic evergreen tree about 50 feet high, with brownish leathery oblong leaves up to 6 inches long.

79564. *PITHECOLOBIUM LOBATUM* Benth. Mimosaceae.

A small ornamental tropical tree with large curved red pods which contain bluish seeds.

For previous introduction see No. 35452.

79565. *SAGUERUS LANGKAB* Blume (*Arenga obtusifolia* Mart.). Phoenicaceae.

Palm.

A Javanese palm, related to the sugar palm (*Arenga saccharifera*) of Malaya, with a spineless, thick-ringed trunk about 20 feet high and 9 to 13 pinnate leaves, about 15 feet long, which have spiny petioles.

For previous introduction see No. 67177.

79566. *ARUNDINA CHINENSIS* Blume. Orchidaceae.

From Singapore, Straits Settlements. Plant collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926. Numbered in March, 1929.

No. 827. Singapore Botanic Gardens, May 31, 1926. A tropical terrestrial orchid with very beautiful flowers reminding one of a small cattleya. When grown in pots it becomes several feet high, and when not in flower it looks more like a bamboo than an orchid. It is grown on a large scale by nurserymen who sell the cut flowers in the markets of the Malay Archipelago.

79567. *DRACAENA DRACO* L. Liliaceae. Dragon tree.

From Ajuda, near Lisbon, Portugal. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received April 21, 1927. Numbered in March, 1929.

No. 1296. April 4, 1927. Seeds from a remarkable specimen probably 300 years old, now growing in the Botanic Garden at Ajuda, once the Royal Quinta Cima of Queen Mary I. This tree is not over 10 or 15 feet high, but has a spread of about 40 feet. It is a curious ornamental tropical tree which becomes 60 feet high, with numerous crowded sword-shaped glaucous-green leaves, greenish flowers, and orange berries.

79568 and 79569.

From Sibolangit, Sumatra. Plant and stolons collected by David Fairchild and P. H. Dorsett, agricultural explorers, Bureau of Plant Industry, with the Allison V. Armour expedition. Received May, 1926. Numbered in March, 1929.

79568 and 79569—Continued.

79568. GIGANTOCHLOA VERTICILLATA (Willd.) Munro. Poaceae. Bamboo.

No. 732. *Boeloch Regen*, *Boeloch Belangke*. Sibolangit Botanic Garden, March 28, 1926. A bamboo plant with culms over 4 inches in diameter, which is not the best of the giant clump bamboos in the mountains of Sumatra, but is largely grown in the lowlands about the kampongs because of its useful timber.

79569. GLOBBIA sp. Zinziberaceae.

No. 437. Sibolangit Botanic Garden, February 24, 1926. Stolons of a herbaceous gingerlike plant with attractive pink flowers, which should be useful as a border plant in southern Florida and Panama.

79570. LIVISTONA OLIVAEFORMIS Mart. Phoenicaceae Palm.

From Singapore, Straits Settlements. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 29, 1926. Numbered in March, 1929.

No. 848. Singapore Botanic Gardens, May 30, 1926. A small handsome fan-leaved palm with olive-shaped, green to purplish-green fruits. Native to Java.

79571. MILLINGTONIA HORTENSIS L. f. Bignoniaceae.

From Peradeniya, Ceylon. Plants collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received July 19, 1926. Numbered in March, 1929.

No. 893. *Indian cork tree*. Peradeniya Botanic Garden, June 9, 1926. A tropical avenue tree of erect habit, becoming 50 feet or more high. It has finely divided leaves and pure-white fragrant long tubular flowers which are borne twice a year, during November and June.

79572. SCIRPUS SUPINUS L. Cyperaceae. Sedge.

From Gold Coast, Africa. Plants collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received April 29, 1927. Numbered in March, 1929.

No. 1267. *Diatamara*. A sedge native to tropical Africa, forming a solid field in a moist boggy spot, several acres in extent, north of Mamou, French Guinea, March 10, 1927. The natives say that in the dry season the cattle eat this to the exclusion of other grasses which are at that time dried up. Its succulent stems form a regular turf on which the cattle walk. It should be tried as fodder on swampy land.

79573 to 79903.

From Manchuria. Seeds presented by P. F. Constatinoff, Harbin, through E. D. Merrill, dean of the College of Agriculture of the University of California, Berkeley, Calif. Received in February, 1929.

79573 to 79576. CHAETOCHLOA ITALICA (L.) Scribn. (*Setaria italica* Beauv.). Poaceae. Millet.

From the Harbin Experiment Station.

79573. N 6.

79574. N 7.

79573 to 79903—Continued.

79575. N 11.

79576. N 23.

79577. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. Six-rowed barley.

79578. PANICUM MILIACEUM L. Poaceae Proso.

N 6. From the Harbin Experiment Station.

79579 and 79580. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Fabaceae.

Adzuki bean.

79579. N 257/1243. From the Anta Experiment Station, Chinese Eastern Railway.

79580. From Fugdin, on the Sungari River.

79581 and 79582. PHASEOLUS AUREUS Roxb. Fabaceae. Mung bean.

79581. From Fugdin, on the Sungari River.

79582. N 297. From the Anta Experiment Station, Chinese Eastern Railway.

79583 to 79887. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soybean.

79583 to 79610. From the Anta Experiment Station, Chinese Eastern Railway.

79583. N 42/1146.

79584. N 123.

79585. N 235/149 A.

79586. N 236/149 G.

79587. N 251/1261.

79588. N 252/1263.

79589. N 265/287 A.

79590. N 254/1148.

79591. N 260/75.

79592. N 262/93.

79593. N 265/100.

79594. N 267/1229.

79595. N 268/1230.

79596. N 270/1234.

79597. N 272/1236.

79598. N 277/44.

79599. N 279/56.

79600. N 282/61.

79601. N 286/3.

79602. N 287/11.

79603. N 288/12.

79604. N 298/13.

79605. N 240/225.

79606. N 291/18.

79607. N 292/21.

79608. N 293/22.

79609. N 247/1250.

79610. N 228.

79611 to 79642. From the Echo Experiment Station.

79611.

79573 to 79903—Continued.

- 79612.
- 79613.
- 79614.
- 79615.
- 79616. N 7.
- 79617. N 8.
- 79618. N 9.
- 79619. N 266 A.
- 79620. N 272.
- 79621. N 274.
- 79622. N 275.
- 79623. N 277.
- 79624. N 287.
- 79625. N 284.
- 79626. N 228.
- 79627. N 303.
- 79628. N 304.
- 79629. N 403.
- 79630. N 410.
- 79631. N 411.
- 79632. N 416.
- 79633. N 423.
- 79634. N 433.
- 79635. N 402.
- 79636. N 409.
- 79637. N 416.
- 79638. N 423.
- 79639. N 1128.
- 79640. N 1153.
- 79641. N 1198.
- 79642. N 1231.
- 79643. N 1250. Wan Sin Hei Shin Station, Echo.
- 79644 to 79649. From the Echo Experiment Station.
- 79644. N 1260.
- 79645. N 1261.
- 79646. N 1265.
- 79647. N 1272.
- 79648. N 1286.
- 79649. N 1801.
- 79650 to 79690. From the Manchurian Agricultural Co. experiment field.
- 79650. N 9/2.
- 79651. N 9/3.
- 79652. N 9/4.
- 79653. N 9/5.
- 79654. N 9/9.
- 79655. N 9/10.
- 79656. N 9/14.
- 79657. N 9/27.
- 79658. N 10/1.
- 79659. N 10/16.
- 79660. N 10/17.

79573 to 79903—Continued.

- 79661. N 12/11.
- 79662. N 12/28.
- 79663. N 14/8.
- 79664. N 14/13.
- 79665. N 14/26.
- 79666. N 14/27.
- 79667. N 15/26.
- 79668. N 16/10.
- 79669. N 18/8.
- 79670. N 19/12.
- 79671. N 19/26.
- 79672. N 21/11.
- 79673. N 24/7.
- 79674. N 31/7.
- 79675. N 31/16.
- 79676. N 42/8.
- 79677. N 42/9.
- 79678. N 42/22.
- 79679. N 43/14.
- 79680. N 70/2.
- 79681. N 70/10.
- 79682. N 73/3.
- 79683. N 78/3.
- 79684. N 78/8.
- 79685. N 82/3.
- 79686. N 85/5 A II.
- 79687. N 85/9.
- 79688. N 85/17.
- 79689. N 86/18.
- 79690. N 86/7.

79691 to 79736. From the Harbin Experiment Station.

- 79691.
- 79692.
- 79693.
- 79694. N 3.
- 79695. N 4.
- 79696. N 20.
- 79697. N 40.
- 79698. N 66.
- 79699. N 79.
- 79700. N 83.
- 79701. N 106.
- 79702. N 111.
- 79703. N 116.
- 79704. N 120.
- 79705. N 122.
- 79706. N 124.
- 79707. N 128.
- 79708. N 130.
- 79709. N 138.
- 79710. N 140.
- 79711. N 145.

79573 to 79903—Continued.

79712. N 158.
 79713. N 170.
 79714. N 177.
 79715. N 179.
 79716. N 181.
 79717. N 182.
 79718. N 183.
 79719. N 187.
 79720. N 190.
 79721. N 193.
 79722. N 195.
 79723. N 199.
 79724. N 210.
 79725. N 221.
 79726. N 228.
 79727. N 230 A.
 79728. N 425.
 79729. N 1121.
 79730. N 1185.
 79731. N 1191.
 79732. N 1125.
 79733. N 1205.
 79734. N 1228.
 79735. N 1279.
 79736. N 1 C.

79737 to 79772. From the Anta Experiment Station, Chinese Eastern Railway.

79737. N 2 A.
 79738. N 2/6.
 79739. N 5 A.
 79740. N 7 A.
 79741. N 12/10.
 79742. N 17 A.
 79743. N 20 B.
 79744. N 24 C.
 79745. N 37 A.
 79746. N 37 B.
 79747. N 37 C.
 79748. N 39 B.
 79749. N 84.
 79750. N 99.
 79751. N 100.
 79752. N 101.
 79753. N 102.
 79754. N 128/16.
 79755. N 201/2 C.
 79756. N 202/2.
 79757. N 254.
 79758. N 211/17 A.
 79759. N 225/71 D.
 79760. N 223/70 G.
 79761. N 226/20 D.

79573 to 79903—Continued.

79762. N 237/152 A.
 79763. N 255/209.
 79764. N 259/66.
 79765. N 263.
 79766. N 266.
 79767. N 281/60.
 79768. N 287.
 79769. N 288.
 79770. N 294.
 79771. N 1215.
 79772. N 1235.

79773 to 79788. From the Echo Experiment Station.

79773.
 79774.
 79775. N 226.
 79776. N 256.
 79777. N 257/6.
 79778. N 258 C.
 79779. N 259.
 79780. N 260.
 79781. N 262.
 79782. N 263.
 79783. N 227.
 79784. N 1246.
 79785. N 1253.
 79786. N 1259.
 79787. N 1268.
 79788. N 1271.

79789 to 79810. From the Manchurian Agricultural Co. experiment field.

79789. N 1/12.
 79790. N 12/11.
 79791. N 17/15.
 79792. N 22/5.
 79793. N 43/14.
 79794. N 46/5.
 79795. N 48/1.
 79796. N 50/10.
 79797. N 50/13.
 79798. N 52/15.
 79799. N 53/22.
 79800. N 55/3.
 79801. N 61/22.
 79802. N 63/13.
 79803. N 63/16.
 79804. N 77/1.
 79805. N 78/8.
 79806. N 82/3.
 79807. N 83/3.
 79808. N 84/5.
 79809. N 85/3.
 79810. N 210/11A.

79573 to 79903—Continued.

79811 to 79840. From the Harbin Experiment Station,

79811.

79812.

79813. N 55.

79814. N 61.

79815. N 65.

79816. N 70.

79817. N 71.

79818. N 77.

79819. N 125.

79820. N 126.

79821. N 132.

79822. N 136.

79823. N 145.

79824. N 147.

79825. N 154.

79826. N 155.

79827. N 163.

79828. N 167.

79829. N 169.

79830. N 173.

79831. N 174.

79832. N 184.

79833. N 189.

79834. N 191.

79835. N 201.

79836. N 203.

79837. N 251.

79838. N 259.

79839. N 260.

79840. N 299.

79841.

79842.

79843.

79844.

79845. Selection N 1 (N 9/3). From the Manchurian Agricultural Co. experiment field.

79846 to 79850. From the Anta Experiment Station, Chinese Eastern Railway.

79846.

79847.

79848.

79849.

79850.

79851. N 282. From the Echo Experiment Station.

79852. From Fugdin, on the Sungari River.

79853. From Fugdin, on the Sungari River.

79854 to 79857. From the Harbin Experiment Station.

79854. N 12.

79855. N 135.

79573 to 79903—Continued.

79856. N 143.

79857. N 149.

79858 to 79861. From the Mangow Experiment Station, Chinese Eastern Railway.

79858. 79860.

79859. 79861.

79862 to 79865. From the Sangache Experiment Station, Chinese Eastern Railway.

79862. 79864.

79863. 79865.

79866 to 79868. From the Shouchenpu Experiment Station, Chinese Eastern Railway.

79866. 79868.

79867.

79869 to 79873. From the Jaolaychou Experiment Station, Chinese Eastern Railway.

79869. 79872.

79870. 79873.

79871.

79874 to 79877. From the Taomin Experiment Station, Chinese Eastern Railway.

79874. 79876.

79875. 79877.

79878 to 79882. From the Tmranpo Experiment Station, Chinese Eastern Railway.

79878. 79881.

79879. 79882.

79880.

79883. From the Taomin Experiment Station, Chinese Eastern Railway.

79884 to 79886. From the Uchimiche Experiment Station, Chinese Eastern Railway.

79884. 79886.

79885. 79887.

79888 to 79892. SORGHUM VULGARE Pers. Poaceae. Sorghum.

From the Harbin Experiment Station.

79888. N 4. 79891. N 14.

79889. N 5. 79892. N 17.

79890. N 11.

79893 to 79900. TRITICUM spp. Poaceae.

79893 to 79898. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Common wheat.

79893. [No data.]

79894. From the Sanchache Experiment Station.

79895. N 65. From the Harbin Experiment Station, and originally from Mukden.

79896. N 43. From the Russian Experiment Station, Harbin.

79897. N 81. From the Harbin Experiment Station.

79898. N 21. From the Harbin Experiment Station.

79573 to 79903—Continued.

79899. *TRITICUM DICOCCUM* Schrank.
Emmer.

N 64. From the Harbin Experiment Station.

79900. *TRITICUM DURUM* Desf.
Durum wheat.

N 85. From the Harbin Experiment Station.

79901. *VICIA FABA* L. Fabaceae.
Broadbean.

79902. *VIGNA SINENSIS* (Torner) Savi.
Fabaceae. Cowpea.

79903. *ZEA MAYS* L. Poaceae. Corn.
N 42.

79904 to 79929.

From Tiflis, Georgia, Russia. Seeds presented by the director, Botanic Garden. Received February 14, 1929.

79904. *COLCHICUM SPECIOSUM* Stev. Melanthiaceae.

A low bulbous plant with four or five shining green leaves about a foot long and showy dark-rose flowers often 6 inches in diameter which appear after the leaves have died away. It is native to the Caucasus.

For previous introduction see No. 67016.

79905 and 79906. *EPHEDRA MAJOR PROCERA* (Fisch. and Mey.) Aschers. and Graebn. Gnetaceae. Jointfir.

A leafless shrub, 4 to 5 feet high, native to the Caucasus, with stiff branches and nearly sessile flower clusters.

79905. Variety *chrysocarpa*. A golden-fruited variety.

79906. Variety *erythrocarpa*. A red-fruited variety.

79907. *HYACINTHUS PARADOXUS* (Boiss.) Fisch. and Mey. (*Bellevalia paradoxa* Boiss.). Liliaceae.

A wild hyacinth, native to Russia, with narrowly lanceolate leaves and spikes of intensely blue bell-shaped flowers.

79908 to 79919. *IRIS* spp. Iridaceae.

79908. *IRIS ACUTILOBA* Meyer.

A wild iris native to the Caucasus, with purple and fawn-colored flowers.

For previous introduction see No. 68158.

79909. *IRIS CAUCASICA* Hoffm.

A rather dwarf bulbous iris native from Asia Minor to Turkestan and ascending to 6,000 feet above sea level. It has about six bright-green, very narrow leaves 3 to 6 inches long, a short stem, and pale or bright-yellow flowers which appear in March or April.

For previous introduction see No. 67812.

79910. *IRIS IBERICA* Hoffm. Iberian iris.

A dwarf, nearly stemless iris, native to mountainous parts of Asia Minor, with narrow leaves 3 to 6 inches long and large flowers which have pale-brown outer segments blotched with

79904 to 79929—Continued.

purple brown, and pure white inner segments, although these colors are not constant.

For previous introduction see No. 68163.

79911. *IRIS LYCOTIS* Woron.

A species for which a description has not been found.

For previous introduction see No. 67916.

79912 to 79914. *IRIS PUMILA* L.

79912. Variety *luteis*. A form with light-yellow flowers.

79913. Variety *pallidis*.

79914. Variety *violaceis*. A form with violet flowers.

79915. *IRIS RETICULATA* Bieb. Netted iris.

A bulbous iris, native to Asia Minor, with short erect leaves about 1½ feet high, a very short stem, and fragrant bright-purple flowers which appear early in spring before the leaves develop.

For previous introduction see No. 68167.

79916. *IRIS* sp.

Received as *Iris sulphurea*, which is a synonym of *I. pumila*, but the seeds do not agree with that species.

79917. *IRIS TALISCHI* Forst.

An iris, native to Persia, of the section Pogoniris, with a large rhizome, thick wide obtuse sword-shaped leaves, and 12 to 30 yellow flowers.

79918. *IRIS TASCHIA* Hort.

A horticultural variety for which a place of publication has not been found.

For previous introduction see No. 68169.

79919. *IRIS WINOGRADOWI* Fomin.

An iris native to the Caucasus.

For previous introduction see No. 64301.

79920 to 79922. *JUNIPERUS* spp. Pinaceae. Juniper.

79920. *JUNIPERUS FOETIDISSIMA* Wild.

Variety *squarrosa*. A form with spreading or recurved branches. The usual type is an evergreen tree, native to southern Europe, up to 15 feet high, with upright branches. The young twigs, when rubbed, emit a disagreeable odor.

79921. *JUNIPERUS ISOPHYLLOS* Koch.

A shrubby oriental tree with light-brown bark and ovate leaves. It differs from *J. pseudosabina* in being smaller and having keeled leaves. Native to Asia Minor.

For previous introduction see No. 64302.

79922. *JUNIPERUS OXYCEDRUS* L. Prickly juniper.

An ornamental evergreen tree, native to Europe, about 15 feet high,

79904 to 79929—Continued.

with light-green foliage covered somewhat with a whitish bloom. It is reported to thrive in dry rocky places.

79923 to 79927. *PAEONIA* spp. Ranunculaceae. Peony.

79923. *PAEONIA ABCHASICA* Hort.

A horticultural variety for which a place of publication has not been found.

For previous introduction see No. 64303.

79924. *PAEONIA MLOKOSEWITSCHI* Lomakin.

A herbaceous perennial peony with dark bluish-green biternate leaves with red nerves and margins and yellow flowers, 4 to 5 inches in diameter, which have numerous stamens and purple stigmas. This peony, considered the handsomest of the yellow-flowered forms, is native to the central Caucasus.

For previous introduction see No. 64304.

79925. *PAEONIA TENUIFOLIA* L. Fringed peony.

A hardy herbaceous perennial a foot or more high, densely leafy, with ternate, much-divided leaves and an erect dark-crimson flower about 3 inches across. It is native to the Caucasus region.

79926. *PAEONIA TRITERNATA* Pall.

A herbaceous peony, native to Siberia, usually about 3 feet high, with triternate leaves and purple flowers.

For previous introduction see No. 67050.

79927. *PAEONIA WITTMANNIANA* Hartwiss.

A herbaceous perennial, native to the Caucasus, 2 to 3 feet high, with biternate leaves 4 to 8 inches long and flowers, about 4 inches across, which are solitary, pale yellow, greenish or nearly white.

For previous introduction see No. 64306.

79928. *SCILLA ROSENI* Koch. Liliaceae. Squill.

A bulbous plant, native to the Caucasus, with linear-oblong leaves and small white flowers.

79929. *ULMUS ELLIPTICA* Koch. Ulmaceae. Elm.

A tree, native to Armenia, with pubescent branchlets, elliptical leaves 3 to 6 inches long, and obovate fruits.

For previous introduction see No. 67926.

79930 to 79956.

From Blackwood, South Australia. Seeds presented by Edwin Ashby. Received February 16, 1929.

79930. *ALYOGYNE HAKEAEFOLIA* (Gordano) Alefeld (*Fugosia hakeaeifolia* Hook.). Malvaceae.

An erect evergreen shrub, native to Australia, with narrow lobed or deeply cut leaves and large purple-lilac flowers. It is closely related to *Gossypium*.

79930 to 79956—Continued.

For previous introduction see No. 65221.

79931. *BEAUFORTIA* sp. Myrtaceae.

Perongorups Mountains, Western Australia. An ornamental evergreen dwarf bush native to Australia.

79932. *CALLISTEMON BRACHYANDRUS* Lindl. Myrtaceae. Bottlebrush.

A pendulous form of this large bushy evergreen shrub. It is 12 to 15 feet high, native to northern Australia, with linear-subulate rigid leaves an inch or more long and loose spikes of flowers with showy deep-red stamens.

79933. *CALLITRIS DRUMMONDII* (Parl.) Benth. and Hook. Pinaceae.

Kangaroo Island, South Australia. A dwarf, compact, cypresslike tree with bright-green foliage. It is native to South Australia, where it thrives under semiarid conditions.

For previous introduction see No. 51283.

79934 to 79937. *CALOTHAMNUS* spp. Myrtaceae.

79934. *CALOTHAMNUS ASPER* Turcz.

A hairy evergreen shrub, native to Western Australia, with crowded, linear, flat leaves and short, dense clusters of flowers with crimson stamens.

For previous introduction see No. 67069.

79935. *CALOTHAMNUS QUADRIFIDUS* Ait.

An erect evergreen shrub 7 feet high, native to Western Australia, with crowded linear leaves about an inch long, somewhat like those of *Hakea*, and dense spikes of flowers which are conspicuous only because of the long, rich crimson stamens.

For previous introduction see No. 67071.

79936. *CALOTHAMNUS SANGUINEUS* Labill.

A tall evergreen shrub, 6 to 12 feet high, with subulate terete leaves about an inch long and flowers with blood-red stamens as long as the leaves. It is native to Western Australia.

79937. *CALOTHAMNUS* sp.

Murchison, Western Australia. A downy dwarf evergreen shrub native to Australia.

79938. *EREMAEA* sp. Myrtaceae.

Geraldton, Western Australia. An orange-flowered shrub up to 4 feet high, native to Australia.

79939 to 79948. *GREVILLEA* spp. Proteaceae.

79939. *GREVILLEA BIPINNATIFIDA* R. Br.

A prostrate or diffuse evergreen shrub 3 to 4 feet high, native to Western Australia. The broadly ovate leaves, 4 inches long and 3 inches wide, are twice divided into wedge-shaped segments. The silky pubescent red flowers are in loose racemes 4 inches long or gathered together into a large terminal panicle.

79940. *GREVILLEA BUXIFOLIA* (J. E. Smith) R. Br.

79930 to 79956—Continued.

An evergreen shrub about 6 feet high, which stands cutting back well and produces an abundance of small pink flowers. It is native to South Australia.

For previous introduction see No. 49364.

79941. GREVILLEA ERICIFOLIA R. Br.

A low evergreen shrub of spreading habit, about 2 feet high, with sessile linear or lanceolate leaves and short terminal racemes of red and yellowish flowers. It is native to southeastern Australia.

79942. GREVILLEA ILICIFOLIA R. Br.

A large spreading evergreen shrub, native to South Australia, with prickly hollylike leaves 1 to 2 inches long and small flowers in terminal racemes.

79943. GREVILLEA LAVANDULACEA Schlecht.

Variety *malleensis*. A variety native to South Australia where it grows from a foot to a foot and a half high on a sandy or clayey subsoil, but it seems to prefer broken rock soil (quartzite). It does very well on rockeries and should be treated as a rock plant. The leaves are pungent, and the crimson flowers, at each axil all along the branches, are borne from the beginning of the winter until late spring in Australia.

79944. GREVILLEA OLEOIDES Sieber.

From The Grampians, Victoria. An erect evergreen shrub, 4 to 5 feet high, closely allied to *G. punicea*, with lanceolate leaves 2 to 4 inches long and sessile racemes of bright-red flowers. It is native to southeastern Australia.

79945. GREVILLEA OLEOIDES DIMORPHA (F. Muell.) Benth.

A variety with more rigid foliage, lanceolate in some specimens and linear in others, and usually smaller flowers.

79946. GREVILLEA FRITZELII Diels.

An evergreen shrub, native to Australia, with brown-hairy branchlets, linear sickle-shaped leaves 3 to 5 inches long, and racemes, 2 to 3 inches long, of white flowers covered with dense white tomentum.

For previous introduction see No. 76640.

79947. GREVILLEA PUNICEA R. Br.

An erect evergreen shrub, 4 to 5 feet high, with small elliptic-oblong leaves and crimson flowers in short dense terminal racemes. It is native to New South Wales.

79948. GREVILLEA ROSMARINIFOLIA A. Cunn.

An erect evergreen shrub, native to New South Wales, about 5 feet high, with hairy branches, erect crowded linear-subulate leaves, and short dense racemes of red flowers.

79949. HAKEA sp. Proteaceae.

An ornamental evergreen shrub, native to Western Australia, with long spikes of scarlet flowers.

79930 to 79956—Continued.

79950. HIBISCUS SPLENDENS Fras. Malvaceae.

From north of Cairns, Queensland. A tall handsome shrub 12 to 20 feet high, native to southern Australia, densely hairy, with prickly branches, palmately lobed heart-shaped leaves, and large, showy rose-colored flowers 6 inches or more across.

79951. HOVEA ELLIPTICA (J. E. Smith) DC. Fabaceae.

A leguminous evergreen shrub up to 10 feet high, with slender branches, small narrowly oval leaves, and short axillary clusters of small blue flowers. It is native to Western Australia.

For previous introduction see No. 64487.

79952. HOVEA PUNGENS Benth. Fabaceae.

A rigidly erect evergreen shrub, 1 to 2 feet high, with linear-lanceolate coriaceous sharp-pointed leaves less than an inch long. The branches are covered from the bottom to the top with clusters of deep-blue flowers.

For previous introduction see No. 76641.

79953. KUNZEA PARVIFLORA Hort. Myrtaceae.

A dwarf evergreen shrub with very showy crimson flowers. Native to Australia.

79954. OXYLOBIUM LANCEOLATUM (Vent.) Druce (*O. callistachys* Benth.). Fabaceae.

A tall evergreen shrub, native to Australia, with whorls of lanceolate leaves 3 to 5 inches long and yellow flowers in dense terminal racemes 6 inches long.

For previous introduction see No. 76941.

79955. SWAINSONA GALEGIFOLIA (Andrews) R. Br. (*S. coronillifolia* Salisb.). Fabaceae.

A shrubby perennial, native to Australia, climbing to a height of several feet, with 1 to 21 small oblong leaflets and large deep-red, pink, or white flowers. *Swainsona coronillifolia* probably represents the horticultural variety *violacea*, which has rose-violet flowers. This species is said to be poisonous to stock.

For previous introduction see No. 77447.

79956. THRYPTOMENE sp. Myrtaceae.

From Geraldton, Western Australia. A dwarf evergreen bush or shrub with a mass of pink flowers which were borne at Blackwood between June and September.

79957. TRACHYPHYRNIUM sp. Marantaceae.

From Cameroon, West Africa. Seeds collected by David Fairchild, agricultural explorer, Bureau of Plant Industry, with the Allison V. Armour expedition. Received March 25, 1927. Numbered in January, 1929.

No. 1174. Victoria Botanic Garden. A tall branching shrub, native to west tropical Africa, with leafy stems and small inconspicuous flowers.

79958 to 79970. CAJANUS INDICUS
Spreng. Fabaceae. Pigeon pea.

From San Juan, Porto Rico. Seeds presented by O. W. Barrett, Agricultural Director, Bureau of Agricultural Development. Received March 27, 1929.

79958. *Americano*.

79959. *Areibenos* 447.

79960. *Chagaros*.

79961. *Cubanos* 4349.

79962. *French* 1624.

79963. *Horacios*.

79964. *Larenos* 446.

79965. *Mites*.

79966. *Negritos*.

79967. *Pepinenos* 4445.

79968. *Pinto Moro*.

79969. *San Salvador* 4258.

79970. *Silvios*.

79971. PINUS SYLVESTRIS L. Pinaceae.

From Manchuria, China. Seeds presented by V. K. Roerich, through V. Golubzoff, Harbin, Manchuria. Received February 2, 1929.

Variety *mongolica*. A Mongolian form of the Scotch pine.

79972. ALSTONIA MACROPHYLLA Wall.
Apocynaceae.

From Peradeniya, Ceylon. Seeds presented by T. H. Parsons, Curator, Royal Botanic Gardens. Received March 30, 1929.

A tall Malayan evergreen tree with milky juice, oblanceolate leaves a foot long, and terminal clusters of small white flowers.

For previous introduction see No. 58390.

79973. ORCHIDANTHA LONGIFLORA
(Scort.) Ridley. Musaceae.

From Peradeniya, Ceylon. Plants presented by W. Small, Acting Director, Department of Agriculture. Received March 30, 1929.

For previous introduction and description see No. 79530.

79974. FICUS CARICA L. Moraceae.
Common fig.

From Hereford, England. Plant and scions purchased from King's Acre Nurseries. Received March 30, 1929.

Brown Turkey fig.

79975. CRYPTOSTEGIA sp. Asclepiadaceae.
Lombiro rubber.

From Madagascar. Seeds presented by Dr. J. O. Dynes, through John S. Richardson, jr., American vice consul, Tananarive, Madagascar, at the request of Charles F. Swingle, Bureau of Plant Industry. Received March 11, 1929.

These seeds were collected by Doctor Dynes at Manasoa (Benenitra), Tullear, Madagascar, from native vines that produce the Lombiro rubber.

79976 to 79979. AGAVE spp. Amaryllidaceae.

From Naples, Italy. Seeds purchased from M. Herb. Received March 30, 1929.

79976. AGAVE CAESPITOSA Tod.

A caespitose, nearly stemless century plant, 3 feet high, with fleshy light-green acuminate leaves which have brown prickly margins. The small greenish flowers are on a long tenuous almost-nodding scape about 10 feet high.

79977. AGAVE HORRIDA Jacobi.

A herbaceous perennial, native to central Mexico, with a rosette of oblanceolate glossy green flat spreading leaves having the large irregular prickles joined by a wide horny margin. The stalk of the inflorescence is moderately slender, and the yellowish or purplish-green flowers are 1 to 2 inches long.

79978. AGAVE MITRAEFORMIS Jacobi (A. bonnettiana Hort.).

A herbaceous perennial, native to southern Mexico, with a rosette of prickly margined recurved obovate leaves 2 to 3 feet long and a flower stalk, 15 to 20 feet high, bearing a loose panicle of large yellow flowers 2 to 3 inches across.

79979. AGAVE UNIVITTATA Haw.

A stemless Mexican century plant with narrow-lanceolate leaves, a foot or more long, elongated into a stout brown spine, with brown horny margins.

79980 to 79991.

From Winchester, England. Plants purchased from Hillier & Sons, West Hill Nurseries. Received March 30, 1929.

79980 to 79990. DAPHNE spp. Thymelaeaceae.

79980. DAPHNE ACUTILOBA Rehder.

For previous introduction and description see No. 79199.

79981. DAPHNE CNEORUM L.
Rose daphne.

For previous introduction and description see No. 79204.

79982. DAPHNE COLLINA NEAPOLITANA
(Lodd.) Lindl.

An evergreen shrub, native to Italy, about 3 feet high, with smooth, narrow, elongated leaves about an inch long and loose heads of rosy purple flowers.

79983. DAPHNE GNIDIUM L.

For previous introduction and description see No. 79474.

79984. DAPHNE HOUTTEANA Planch.

A handsome evergreen shrub with deep-purple lanceolate half-leathery leaves and small cymes of violet-lilac flowers. It is possibly a hybrid between *Daphne mezereum* and *D. laureola*.

79985. DAPHNE LAUREOLA L.

For previous introduction and description see No. 79057.

79986. DAPHNE LAUREOLA PHILIPPI
(Gren. and Godr.) Meisn.

For previous introduction and description see No. 79210.

79980 to 79991—Continued.

79987. *DAPHNE OLEOIDES* Shreb. (*D. buxifolia* Vahl). Olive daphne.

For previous introduction and description see No. 79202.

79988 and 79989. *DAPHNE PETRAEA* Leyb. (*D. rupestris* Facch.).

79988. For previous introduction and description see No. 79212.

79989. Variety *grandiflora*. A large-flowered form.

79990. *DAPHNE RETUSA* Hemsl.

An evergreen densely branched shrub, native to western China, up to 3 feet high, with cuneate-oblong usually emarginate leaves from 1 to 3 inches long and fragrant, rosy purple flowers, white inside, about an inch across, in terminal heads.

79991. *ERICA VAGANS* L. Ericaceae. Cornish heath.

For previous introduction and description see No. 79158.

79992 to 80018.

From Bengal, India. Bulbs and roots purchased from R. B. and D. S. Pradhan, the Chandra Nursery. Received in February, 1929.

79992. *AGAPANTHUS AFRICANUS* (L.) Hoffmannsegg (*A. umbellatus* L'Her.). Liliaceae. African lily.

Variety *Minor moorianus*. A slender-leaved dwarf variety.

79993. *CRINUM POWELLII* Baker. Amaryllidaceae. Powell crinum.

A bulbous plant with about 20 spreading strap-shaped leaves 3 to 4 feet long and about 8 rose-colored flowers in large showy heads terminating a scape a foot or more high. It is considered to be a hybrid between *Crinum longifolium* and *C. moorei*.

79994 to 80008. *HEDYCHIMUM* spp. Ziniberaceae. Gingerlily.

79994. *HEDYCHIMUM AURANTIACUM* Wall.

A leafy alpine perennial about 5 feet high, with lanceolate leaves a foot or more long and 2 to 3 inches wide. The delicate orange flowers, with orange-yellow patches, are in a spike 6 inches to a foot long. It is native to the mountains of Nepal.

79995. *HEDYCHIMUM CHANDRABIRIANUM* Hort.

A hybrid bearing fragrant white flowers with yellow patches very early in the season.

79996. *HEDYCHIMUM COCCINEUM* Buch-Ham.

Variety *angustifolium*. A gingerlike plant up to 5 feet high, with narrow leaves and dull brick-red flowers, shading to crimson, in a spike about 15 inches long.

79997 to 79999. *HEDYCHIMUM CORONARIUM* Koen. Common gingerlily.

79997. Variety *chrysoleucum*. A variety in which the highly scented flower has a white lip with a large yellow patch in the center.

79992 to 80018—Continued.

79998. Variety *flavescens*. Flowers very fragrant and yellow with a deeper yellow patch.

79999. Variety *maximum*. A variety with a taller stem and white flowers with faint orange patches.

80000. *HEDYCHIMUM ELATUM* R. Br.

A gingerlike plant 5 feet high, with narrow-oblong leaves a foot or more in length and white flowers marked with pink, about 2 inches long, in stout spikes nearly a foot high. It is native to the subtropical Himalayas.

80001. *HEDYCHIMUM GARDNERIANUM* Roscoe. India gingerlily.

A tall tender leafy perennial, native to India, with narrow sessile leaves and a terminal spike of light-yellow flowers which are succeeded by showy red fruits.

80002. *HEDYCHIMUM GHALII* Hort.

A hybrid with scented white flowers, marked with yellow, borne in a spike over a foot long.

80003. *HEDYCHIMUM GREENII* W. W. Smith.

A leafy subtropical perennial, native to Bhutan, India, about 5 feet tall, with narrow-oblong leaves up to a foot long and red flowers in dense spikes about 5 inches long.

80004. *HEDYCHIMUM PRADHANII* Hort.

A hybrid with spikes over a foot long, of mildly scented flowers which are white with a flesh-pink patch.

80005. *HEDYCHIMUM SAMSERII* Hort.

A hybrid with spikes about a foot long, of delicate orange flowers with a deeper patch.

80006. *HEDYCHIMUM SPICATUM ACUMINATUM* Wall.

A leafy perennial, native to the Himalayas, up to 4 feet high, with narrow-oblong leaves a foot or more long, with pale-yellow or white flowers in a rather lax spike about a foot long.

80007. *HEDYCHIMUM THYRSIFORME* J. E. Smith.

A tender leafy perennial, native to the Himalayas, usually about 5 feet high, with finely hairy leaves up to a foot long and 4 inches wide and mildly scented white flowers in a dense spike.

80008. *HEDYCHIMUM VILLOSUM* Wall.

A leafy alpine perennial, native to the Himalayas, with narrow-oblong leaves, a foot or less long, pubescent above, and cream-colored flowers, about 2 inches long, in spikes 6 inches to a foot high.

80009. *IRIS* sp. Iridaceae.

An alpine iris from the Himalayas.

80010 to 80013. *LILIUM* spp. Liliaceae. Lily.

80010. *LILIUM GIGANTEUM* Wall. Giant lily.

For previous introduction and description see No. 78853.

79992 to 80018—Continued.

80011. *LILIUM NEILGHERRENSE* Wight.

A tender lily from the Neilgherry Hills, India, which resembles in a general way the hardy *L. regale* of China. It differs in its more slender, less widely open trumpet-shaped flowers which are greenish white without and pure white within.

80012. *LILIUM SULPHUREUM* Baker.

A handsome trumpet lily, native to northern Burma at such elevations that it is as far north as Philadelphia, with erect stems 6 to 7 feet high, and somewhat broader leaves than those of *L. neilgherrense*. It resembles more closely the northern *L. sargentiae*, and, like it, bears bulbils in the axils of the leaves. The yellowish white flowers are stained with brown on the outside and deeper yellow in the throat.

80013. *LILIUM WALLICHIANUM* Schult. f.

For previous introduction and description see No. 78854.

80014. *NIOBE* sp. (*Funkia* sp.). Liliaceae.
Plantainlily.

The plantainlilies are herbaceous perennials, mostly native to China and Japan, with large masses of root leaves and white or bluish flowers in loose spikes.

79992 to 80018—Continued.

80015 to 80018. *ZEPHYRANTHES* spp.
Amaryllidaceae. Zephyrlily.80015. *ZEPHYRANTHES CANDIDA* (Lindl.)
Herb. Autumn zephyrlily.

A subtropical bulbous plant with linear leaves a foot long, appearing with the flowers; these are white, often rose tinted on the outside, and about 2 inches long. It is native to Argentina.

80016. *ZEPHYRANTHES ROBUSTA* (Herb.)
Baker.

A tender bulbous plant, native to Argentina, 6 to 9 inches high, with glaucous linear leaves which appear after the very large showy flowers. The latter are a delicate pink and about 2½ inches long.

80017. *ZEPHYRANTHES ROSEA* Lindl.
Pink zephyrlily.

An autumn-blooming tender bulbous plant, native to Cuba, with linear bright-green leaves and rose-colored flowers an inch long, on a slender peduncle 4 to 6 inches long.

80018. *ZEPHYRANTHES SULPHUREA* Hort.

A tender bulbous plant with bright-yellow flowers.

INDEX OF COMMON AND SCIENTIFIC NAMES

- Abelia* sp., 78697.
Abumon africanum. See *Agapanthus africanus*.
Acacia asparagoides, 78664.
bakeri, 78665.
decurrens pauciglandulosa, 78666.
elongata, 78667.
heteroclita, 78668.
pubescens, 78669.
suaveolens, 78670.
trinervata, 78671.
Aconite. See *Aconitum* sp.
Aconitum sp., 78698.
Actinidia sp., 78526.
Actinotus leucocephalus, 79112.
Aegilops cylindrica, 78749, 78750.
tauschii, 78751.
truncialis, 78752.
Agapanthus africanus, 78856, 79992.
umbellatus. See *A. africanus*.
Agave albicans, 79462.
bonnettiana. See *A. mitraeformis*.
caespitosa, 79976.
elimeetiana, 79463.
franzosini, 79464.
horrida, 79977.
lophantha, 79465.
mitraeformis, 79978.
polyacantha, 79466.
salmiana, 79467.
tequilana, 79468.
univittata, 79979.
victoriae-reginae, 79469.
Agropyron dagnae, 78753.
orientale, 79754.
repens glaucescens, 78755.
Alfalfa. See *Medicago sativa*.
Allium beesianum, 78975.
bidwilliae, 78976.
caeruleum, 78978.
carinatum, 78977.
cyaneum, 78979.
fistulosum, 78980.
giganteum, 78981.
hymenorrhizum, 78982.
karataviense, 78983.
macranthum, 78984.
neapolitanum, 78985.
odorum, 78986.
ostrowskianum, 78987.
oviflorum, 78988.
paradoxum, 78989.
pendulinum, 78990.
reticulatum, 78594.
schoenoprasum, 78991.
scorzoneraefolium, 78992.
senescens, 78993.
stellatum, 78994.
subangulatum, 78995.
subhirsutum, 78996.
tanguticum, 78997.
ursinum, 78998.
vineale, 78999.
watsoni, 78686.
yunnanense, 79000.
zebdanense, 79001.
Almond. See *Amygdalus communis*.
Aloe andringitrensis, 79150.
arborescens, 79470.
saponaria, 79471.
striata, 79472, 79473.
Alpine daphne. See *Daphne alpina*.
Alstonia macrophylla, 79972.
Alstroemeria aurantiaca, 78871, 78873, 78874.
chilensis, 78872.
Alyogyne hakeaefolia, 79930.
Amaranth. See *Amaranthus viridis*.
Amaranthus viridis, 79531.
Amerimnon lanceolarium, 79533.
Amygdalus communis, 79522.
fenzliana X *communis*, 78757.
georgica, 78756.
persica, 78512, 78513, 78543-78547.
Andropogon intermedius caucasicus, 78758.
ischaemum, 78759.
Androsace sp., 78699.
Apple. See *Malus* sp.
Apricot. See *Prunus armeniaca*.
Arachis hypogaea, 79550.
Arar-tree. See *Callitris quadrivalvis*.
Areca sp., 78528.
Arenga obtusifolia. See *Saguerus langkad*.
Arisaema sp., 78700.
Arracacha. See *Arracacia xanthorrhiza*.
Arracacha esculenta. See *Arracacia xanthorrhiza*.
Arracacia xanthorrhiza, 78832.
Arthraxon hispidus cryptatherus, 78760.
Artocarpus champeden, 78574.
polyphema. See *A. champeden*.
Arundina chinensis, 79566.
Astragalus amorphilus, 78761.
brachycarpus, 78762.
falcatus, 78763.
glycyphyllos, 78764.
hamosus, 78765.
kadshorensis, 78766.
mollis, 78767.
monspessulanus, 78768.
pseudonobrychis, 78769.
sanguinolentus, 78770.
Attalea spectabilis, 79560.
Avena spp., 78822-78825, 79342-79349.
byzantina, 78819, 78820.
sativa, 78584-78588, 78826.
strigosa, 78821.
Azalea pontica. See *Rhododendron luteum*.
Baccaurea dulcis, 79561.
motleyana, 79562.
nanilua, 79563.
Bamboo. See *Dendrocalamus macroculmis*.
Gigantochloa verticillata, 79568.
Banksia attenuata, 79113.
baxteri, 79114.
coccinea, 79115.
lemanniana, 79116.
occidentalis, 79117.
prionotes, 79118.
speciosa, 79119.
verticillata, 79120.
Beardtongue. See *Penstemon* spp.
Barberry. See *Berberis* spp.
crow. See *B. empetrifolia*.
Magellan. See *B. buxifolia*.
shortcluster. See *B. brevipaniculata*.
wintergreen. See *B. julianae*.
Barley. See *Hordeum* spp.
Bean, adzuki. See *Phaseolus angularis*.
Lima. See *P. lunatus*.
mung. See *P. aureus*.
Beaufortia sp., 79931.
Bellevalia paradoxa. See *Hyacinthus paradoxus*.
Berberis angulosa, 78915, 79151.
atrocarpa, 79506.
brevipaniculata, 78916.
buxifolia, 78876, 78917.
empetrifolia, 78877, 79507.
farreri, 79185.
hookeri, 79508.

- Berberis*—Continued.
julianae, 79002.
lecomtei, 79003.
lycium, 79004.
morrisonensis, 79152.
orthobotrys, 79005.
polyantha, 79006.
umbellata, 78918.
wallichiana, 78919.
Berria ammonilla, 79534.
 Bog kalmia. See *Kalmia polifolia*.
Borassus flabellifer, 78616.
 Bottlebrush. See *Callistemon brachyandrus*.
 lemon. See *C. citrinus*.
 Box, common. See *Buxus sempervirens*.
Brachypodium sylvaticum, 78771.
Brassia actinophylla. See *Schefflera actinophylla*.
Brassica balearica, 79007.
campestris, 79008.
crucastrium, 79009.
laccigata, 79010.
nigra, 79011.
 Broadbean. See *Vicia faba*.
Bromus albidus, 78772.
rubens, 78773.
 Broom, bridal-veil. See *Genista monosperma*.
 paradise. See *Cytisus scoparius andreaeanus*.
Bruckenthalia spiculifolia, 78878.
Bryocarpum himalaicum, 78703.
Buddleia sp., 78701.
Bulbinella hookeri, 78879.
 Butchersbroom. See *Ruscus aculeatus*.
Buxus harlandii, 79509.
sempervirens, 79510–79520.
wallichiana, 79521.
Cajanus indicus, 79958–79970.
Callistemon brachyandrus, 79932.
citrinus, 78532.
lanceolatus. See *C. citrinus*.
Calliris drummondii, 79933.
quadrivalvis, 78676.
Calluna vulgaris, 78900, 78901.
Calothamnus sp., 79937.
asper, 79934.
quadrifidus, 79935.
sanguineus, 79936.
Caltha sp., 78702.
Canna edulis, 78852.
 Cape-marigold. See *Dimorphotheca* spp.
 winter. See *D. aurantiaca*.
Capsicum annuum, 79535.
Caragana gerardiana, 78550.
Carica papaya, 79536.
Carmichaelia flagelliformis, 78920.
Caryopteris tangutica, 78551.
Cassia pleurocarpa, 79121.
Castanea crenata, 78548, 78617–78649, 79420–79449.
mollissima, 78650–78653, 78744, 78831.
Castanopsis spp., 78610, 78611.
concinna, 78530.
cuspidata, 78514, 78654.
Catalpa longissima, 78580, 79537.
 Caucasian daphne. See *Daphne caucasica*.
Cavanillesia platanifolia, 78818.
Chaetochloa italica, 79573–79576.
Chamaelaucium ciliatum, 79122.
 Chestnut, hairy. See *Castanea mollissima*.
 Japanese. See *C. crenata*.
 Chilean alstroemeria. See *Alstroemeria chilensis*.
 Chinquapin, evergreen. See *Castanopsis concinna*.
 Japanese. See *Castanopsis cuspidata*.
 Chives. See *Allium schoenoprasum*.
Chrysobactron hookeri. See *Bulbinella hookeri*.
Cinchona ledgeriana, 78602.
Cinnamomum mindanaense, 79546.
Citharexylum berlandieri, 78537.
Citrullus vulgaris, 79366–79373.
Citrus spp., 79454–79459.
sinensis, 78603.
 Clover. See *Trifolium* spp.
 red. See *T. pratense*.
 Cocaine-tree. See *Erythroxylon coca*.
Colchicum speciosum, 79904.
Colvillea racemosa, 78604, 79538.
Comesperma spinosum, 79123.
 Common saraca. See *Saraca indica*.
Conostylis drummondii, 79124.
 Corn. See *Zea mays*.
Coronilla cappadocica, 78774.
scorpioides, 78775.
varia, 78776.
Cotoneaster praecox, 78552.
pyrenaica, 78553.
Cotyledon umbilicus, 79153.
 Cotton. See *Gossypium* spp.
 Cowpea. See *Vigna sinensis*.
 Cranesbill. See *Geranium* spp.
 Crested agave. See *Agave lophantha*.
Crinum powellii, 79993.
 Crownvetch. See *Coronilla varia*.
Cryptostegia sp., 79975.
Cucumis melo, 79374–79377.
Cudrania tricuspidata, 79547.
Cyananthus lobatus, 78880.
Cyclamen africanum, 79186.
atkinsii, 79187.
balearicum, 79188.
cilicicum, 79189.
coulm, 79190, 79191.
europaeum, 79053, 79192.
graecum, 79193.
hederacifolium, 79194, 79195.
ibericum, 79196.
jovis, 79197.
macrophyllum, 79054.
neapolitanum, 79055.
repandum, 79198.
Cynodon dactylon, 78777.
Cyrtanthus flammeus, 78510.
Cytisus scoparius andreaeanus, 78881–78892.
spachianus, 79012.
weldenii. See *Petteria ramentacea*.
Dalbergia lanceolaria. See *Amerimnon lanceolarium*.
Danae racemosa, 78677.
Daphne acutiloba, 79199, 79980.
alpina, 79056, 79200.
buxifolia. See *D. oleoides*.
caucasica, 79203.
cneorum, 79204, 79981.
collina neapolitana, 79982.
gnidium, 78678, 79205, 79474, 79983.
haemathocarpa, 79206.
houtteana, 79984.
laureola, 79057, 79207, 79985.
laureola philippi, 79210, 79986.
mezereum, 79201, 79208, 79209.
oleoides, 79202, 79987.
petraea, 79212, 79988, 79989.
pontica, 79211.
retusa, 79990.
rupestris. See *D. petraea*.
striata, 79058, 79213.
Daviesia cordata, 79125.
 Daylily. See *Homeroallia plicata*.
Dendrocalamus macroculmis, 79548.
Dianthus requienii, 79013.
Dicentra sp., 78704.
Diervilla sp., 78517.
Digitalis isabellina, 79059.
Dimorphotheca aurantiaca, 79014.
hybrida, 79015.
pluvialis, 79016, 79154.
Diospyros kaki, 79450–78453.
sinensis, 78511, 78527.
Dracaena draco, 79567.
 Dragontree. See *Dracaena draco*.
Echinaria capitata, 78778.
 Edible canna. See *Canna edulis*.
 Eggplant. See *Solanum melongena*.
Elaeis guineensis, 78538.
Elaeodendron capense, 79525.
 Elm. See *Ulmus elliptica*.
 Emmer. See *Triticum dicoccum*.
Enkianthus campanulatus, 78921–78923, 78925.
chinensis, 78924.
sinohimalaicus. See *E. chinensis*.

Ephedra altissima, 79214.
americana andina, 79215.
foliata, 79217.
fragilis, 79216.
helvetica, 79218.
major procera, 79219, 79905, 79906.
Eremaea sp., 79938.
Erianthus ravennae, 78779.
Erica sp., 78682.
arborea, 78679, 78893.
australis, 79017.
ciliaris, 78894, 79155.
cinerea, 78680, 78895-78897, 79156.
cinerea coccinea, 79060.
scoparia, 78681, 79018.
stricta, 78898, 79019, 79061.
tetralix, 79020, 79157.
vagans, 78899, 79062, 79158, 79991.
Erythronium grandiflorum, 78687.
grandiflorum albiflorum, 78688.
grandiflorum parviflorum, 78689.
Erythroxylon coca, 78509.
Eulalia fulva, 78746.
 European cyclamen. See *Cyclamen europaeum*.
Euterpe edulis, 79539.
 False-olive. See *Elaeodendron capense*.
 February daphne. See *Daphne mezereum*.
Festuca ovina sulcata, 78780.
Ficus sp., 78577.
carica, 79523, 79524, 79974.
gracilipes, 78597.
henniana, 78598.
marianensis, 78575.
philippinensis, 78576.
platypoda petiolaris, 78599.
watkinsiana, 78600.
 Fig. See *Ficus* spp.
 common. See *Ficus carica*.
 Figmarigold. See *Mesembryanthemum* spp.
 heartleaf. See *Mesembryanthemum cordifolium*.
 Foxglove. See *Digitalis isabellina*.
Fragaria hayatai, 78535.
Fuchsia corymbiflora, 78926, 78927.
Fugosia hakeaefolia. See *Alyogyne hakeaefolia*.
Funkia sp. See *Niobe* sp.
Garcinia sp., 79549.
morella, 79540.
Gasteria obtusifolia, 79475.
verrucosa, 79476.
Gastrolobium calycinum, 79127.
epacridioides, 79128.
villosum, 79129.
Gaultheria sp., 78705.
Genista monosperma, 78902.
 Gentian. See *Gentiana* spp.
 cross. See *G. cruciata*.
 Himalayan. See *G. tibetica*.
 milkweed. See *G. asclepiadea*.
 stemless. See *G. gentianella*.
Gentiana alpina, 79064, 79221.
angulosa, 79065, 79222.
angustifolia, 79159, 79223.
asclepiadea, 78858, 78928, 78929, 79021, 79022, 79066, 79160, 79224.
barbata, 79225.
bavarica, 78859, 79067, 79226, 79227.
bigelovii, 79228.
brachyphylla, 79068, 79229.
bursari, 79230.
calycosa, 79069, 79231.
campestris, 79161.
clusii, 79070, 79232.
crassicaulis, 78930.
cruciata, 78931, 79023, 79071, 79162, 79233.
dahurica, 79072, 79234.
decumbens, 79235.
depressa, 79236.
detonaa, 79073, 79237.
dinarica, 79238.
elegans, 79239.
caesia, 79240.
farreri, 79074, 79241.
favrati, 79242.
fetisovii, 79024, 79243.

Gentiana—Continued.

freyniana, 79025, 79075, 79244.
frigida, 79026, 79245, 79246.
froehlichii, 79247.
gentianella, 78857, 79063, 79220, 79248.
grombezewskii, 79027, 79249.
holopetala, 79250.
hookeri, 79251.
imbricata, 79252.
kesselringi, 79076, 79253.
kochiana, 79077, 79254.
kurroo, 79078.
lagodechiana, 78860, 79079, 79255.
lutea, 78932.
macrophylla, 79080.
moorcroftiana, 79256.
newberryi, 79257.
nivalis, 79081.
olivieri, 79258.
pannonica, 79259.
parryi, 79082, 79260.
phlogifolia, 78933, 79083, 79261.
pneumonanthe, 79084, 79163, 79262.
prolata, 79085.
przewalskii, 79086, 79263.
pteroalyx, 79264.
pumila, 79265.
punctata, 79087, 79266.
purdomi, 79088, 79267.
purpurea, 78934, 79089, 79268, 79269.
penumonanthe, 79084, 79163, 79262.
pyrenaica, 79270.
rostani, 79271.
saponaria, 78935.
scabra, 79090.
sceptrum, 79272.
schistocalyx, 79273.
septemfida, 78861, 78936-78938, 79091, 79274-79278.
setigera, 79092.
sikkimensis, 79280.
straminea, 79093, 79279.
tibetica, 78939, 79028, 79281.
tubulosa, 78940.
verna, 78862, 79094, 79282-79285.
walujewi, 79095, 79286.
Geranium andressi, 78903.
lowii, 78904.
sanguineum, 78905.
sessiliflorum, 78906.
Gigantochloa verticillata, 79568.
 Gingerlily. See *Hedychium* spp.
 common. See *H. coronarium*.
 India. See *H. gardnerianum*.
 Glacierlily. See *Erythronium grandiflorum*.
Globba sp., 79569.
Glycine hispida. See *Soja max*.
 Gooseberry. See *Ribes reclinatum*.
Gossypium spp., 78561-78565, 78747, 78748, 78830.
stocksii, 78516.
 Grape. See *Vitis* sp.
 brier. See *V. davidii*.
 European. See *V. vinifera*.
 Grape-hyacinth. See *Muscari* spp.
 Grass, Bahia. See *Paspalum notatum*.
 Bermuda. See *Cynodon dactylon*.
 sugar. See *Eulalia fulva*.
 See also *Aegilops* spp., *Agropyron* spp., *Andropogon* spp., *Arthraxon* spp., *Brachypodium* spp., *Bromus* spp., *Echinaria capitata*, *Erinathus ravennae*, *Hordeum bulbosum*, *H. murinum*, *Koeleria gracilis*, *Melica* spp., *Oryzopsis* spp., *Phleum paniculatum*, and *Poa* spp.
Grevillea bipinnatifida, 79939.
buxifolia, 79940.
ericifolia, 79941.
eristachya, 79126.
ilicifolia, 79942.
lavandulacea, 79943.
oleoides, 79944.
oleoides dimorpha, 79945.
polybotrya, 79130.
pritzelii, 79946.
punicea, 79947.
rosmarinifolia, 79948.
 Guava. See *Psidium guajava*.
Gynura vidaliana, 78531.

- Hakea* sp., 79949.
acicularis, 78533.
sericea. See *H. acicularis*.
- Heath. See *Erica* spp.
 besom. See *E. scoparia*.
 Cornish. See *E. vagans*.
 Coriscan. See *E. stricta*.
 crossleaf. See *E. tetralix*.
 fringed. See *E. ciliaris*.
 tree. See *E. arborea*.
 twisted. See *E. cinerea*.
- Heather. See *Calluna vulgaris*.
- Hedychium* sp., 78706.
aurantiacum, 79994.
chandraberianum, 79995.
coccineum, 79996.
coronarum, 79997-79999.
elatum, 80000.
gardnerianum, 80001.
ghalii, 80002.
greenii, 80003.
pradhanii, 80004.
samsherii, 80005.
spicatum acuminatum, 80006.
thyrsiforme, 80007.
villosum, 80008.
- Hemerocallis plicata*, 78941.
- Hemigenia canescens*, 79131.
incana, 79132.
- Heptapleurum* sp. See *Schefflera* sp.
- Hibiscus sabdariffa*, 78745.
splendens, 79950.
- Houseleek. See *Sempervivum* spp.
 fuzzy. See *S. glaucum*.
 roof. See *S. tectorum*.
 sand. See *S. arenarium*.
 spiderweb. See *S. arachnoideum*.
- Hordeum bulbosum*, 78781.
distichon palmella, 78782.
murinum, 78783, 78784.
vulgare nigrum, 78785.
vulgare pallidum, 78786, 79577.
- Hovea elliptica*, 79951.
pungens, 79952.
- Hyacinth, grape. See *Muscari* spp.
- Hyacinthus paradoxus*, 79907.
- Hypericum* sp., 78707.
- Iris, goldvein. See *Iris chrysographes*.
 Iberian. See *I. iberica*.
 netted. See *I. reticulata*.
- Iris* spp., 79916, 80009.
acutiloba, 79908.
caucasica, 79909.
chrysographes, 79029.
chrysophylla, 79096.
iberica, 79910.
lycotis, 79911.
milesii, 79030.
pumila, 79912-79914.
reticulata, 79915.
sintenisii, 78863.
talischii, 79917.
taschia, 79918.
winogradowi, 79919.
- Jacksonia decumbens*, 79133.
- Japanese skimmia. See *Skimmia japonica*.
- Jointfir. See *Ephedra* spp.
 climbing. See *E. altissima*.
- Juniper. See *Juniperus* spp.
 prickly. See *J. oxycedrus*.
- Juniperus foetidissima*, 79920.
isophyllos, 79921.
oxycedrus, 79922.
- Kaki. See *Diospyros kaki*.
- Kalanchoe aliciae*, 79164.
aromatica, 79165.
crenata, 79166, 79477.
crenata × *felthamensis*, 79167.
daigremontiana, 79168.
gastonis-bonnieri, 79169.
glaucescens, 79478.
globulifera coccinea, 79170.
hildebrandtii, 79171.
- Kalanchoe*—Continued.
orgyalis, 79173.
schimperiana, 79479.
synsepala, 79172.
- Kalmia cuneata*, 79031.
polifolia, 79032.
glauc. See *K. polifolia*.
- Kitaibelia vitifolia*, 79174, 79503.
- Kleinhovia hospita*, 79541.
- Koeleria gracilis*, 78787.
- Kunzea micrantha*, 79134.
parviflora, 79953.
sericea, 79135.
- Lathyrus roseus*, 78789.
- Laurel, Alexandrian. See *Danae racemosa*.
- Leptospermum scoparium*, 78581.
- Leschenaultia biloba*, 79136.
- Leycesteria formosa*, 78855.
- Lilac. See *Syringa* spp.
 late. See *Syringa villosa*.
- Lily. See *Lilium* spp.
 African. See *Agapanthus africanus*.
 atamasco. See *Zephyranthes atamasco*.
 candlestick. See *Lilium dauricum*.
 giant. See *L. giganteum*.
 panther. See *L. parviflorum*.
 rubellum. See *L. rubellum*.
- Lilium* spp., 78559, 78560, 78606.
dauricum, 78605.
giganteum, 78853, 80010.
neilgherrense, 80011.
parviflorum, 78690.
rubellum, 78864.
sulphureum, 80012.
wallichianum, 78854, 80013.
- Lithocarpus* sp., 78656.
edulis, 78655.
- Liveforever. See *Sedum telephium*.
- Livistona olivaeformis*, 79570.
- Lycopersicon esculentum*, 78539, 79532.
- Lysimachia* sp., 78708.
- Malus* sp., 78673.
- Mangifera indica*, 79460, 79461.
- Mango. See *Mangifera indica*.
- Manuka. See *Leptospermum scoparium*.
- Martinezia caryotaefolia*. See *Tilimia caryotaefolia*.
- Medicago sativa*, 78791.
sativa glutinosa, 78790.
- Melaleuca* sp., 79138.
elliptica, 79137.
- Melica micrantha*, 78792.
picta, 78793.
- Melilotus alba*, 78794.
neapolitana, 78795.
officinalis, 78796.
- Melon. See *Cucumis melo*.
- Menziesia polifolia*, 78907-78909.
- Meratia praecox grandiflora*, 78683.
- Mesembryanthemum acinaciforme*, 79480.
blandum, 79481.
cordifolium, 79482.
cultratum, 79483.
depressum, 79484.
difforme, 79485.
edule, 79486.
heteropetalum, 79487.
linguiforme, 79488.
salmii, 79489.
serrulatum, 79490.
spectabile, 79491.
uncatum, 79492.
- Millet. See *Chaetochloa italica*.
- Millingtonia hortensis*, 79571.
- Mimosa* sp., 78601.
- Mockorange, gray. See *Philadelphus incanus sargentianus*.
 silk. See *P. sericanthus rehderianus*.
- Morina longifolia*, 78910, 78911.
- Mountain-ash. See *Sorbus folgneri*.
- Muscari armeniacum*, 79033.
szovitsianum, 79034.
- Mustard. See *Brassica* spp.
 black. See *Brassica nigra*.

- Navelwort. See *Cotyledon umbilicus*.
 Neapolitan cyclamen. See *Cyclamen neapolitanum*.
 Necklace tree. See *Ormosia monosperma*.
Nicotiana tabacum, 79528.
Niobe sp., 80014.
Nomocharis sp., 78709.
Nothoscordum fragrans, 79175.
Nummularia sp. See *Lysimachia* sp.
- Oak. See *Quercus* sp.
 blue Japanese. See *Q. glauca*.
 bristletooth. See *Q. acutissima*.
 daimyo. See *Q. dentata*.
 European turkey. See *Q. cerris*.
 Japanese evergreen. See *Q. acuta*.
- Oats. See *Avena* spp.
Olearia paucidentata, 79139.
 Olive daphne. See *Daphne oleoides*.
Omphalodes linifolia, 79504.
 Onion. See *Allium watsoni*.
 Welsh. See *A. fistulosum*.
 Orange. See *Citrus sinensis*.
Orchidantha longiflora, 79530, 79973.
maxillarioides, 79529.
Ormosia dasycarpa. See *O. monosperma*.
monosperma, 79542.
Ornithogalum longebracteatum, 79176.
pyrenaicum, 79177.
Oryza sativa, 79378-79419.
Oryzopsis holciformis, 78797.
paradoxa virescens, 78798.
Oxlobium callistachys. See *O. lanceolatum*.
capitatum, 79140.
lanceolatum, 79954.
- Paeonia abchasica*, 79923.
albiflora, 78607.
anomala, 79035.
arietina, 79036.
delavayi, 79037.
lutea, 79038.
mlokosewitschi, 79924.
tenuifolia, 79925.
triternata, 79926.
wittmanniana, 79927.
- Palm, African oil. See *Elaeis guineensis*.
 Morris thatch. See *Thrinax morrisii*.
 Palmyra. See *Borassus flabellifer*.
 See also *Areca* sp., *Attalea spectabilis*,
Euterpe edulis, *Livistona olivaeformis*,
Saguerus langkab, *Seaforthia* sp.,
Tilimia caryotaefolia.
- Panicum miliaceum*, 79578.
 Papaya. See *Carica papaya*.
Paspalum notatum, 78566.
Passiflora sp., 78596.
caerulea, 79178.
macrocarpa, 78595.
 Passionflower, bluecrown. See *Passiflora caerulea*.
Patersonia xanthina, 79141.
 Pea. See *Pisum elatius*.
 Peach. See *Amygdalus persica*.
 Peanut. See *Arachis hypogaea*.
 Pear. See *Pyrus* spp.
Pedicularis foliosa, 79287.
palustris, 79288.
racemosa, 79289.
tuberosa, 79290.
verticillata, 79291.
- Pentstemon confertus*, 78691.
confertus caeruleo-purpureus, 78692.
diffusus, 78693.
menziesii, 78694.
ovatus, 78695.
- Peony. See *Paeonia* spp.
 Chinese. See *P. albiflora*.
 fringed. See *P. tenuifolia*.
 golden. See *P. lutea*.
- Persimmon. See *Diospyros sinensis*.
Petteria ramentacea, 79039, 79505.
Phaseolus angularis, 79579, 79580.
aureus, 78536, 79581, 79582.
lunatus, 78827.
- Philadelphus incanus sargentianus*, 78942.
ericanthus rehderianus, 78943.
- Phleum boehmeri*. See *P. phleoides*.
paniculatum, 78800.
phleoides, 78799.
- Picea glehnii*, 78567.
 Pigeon-pea. See *Cajanus indicus*.
Pimelea preissii, 79142.
 Pine, lacebark. See *Pinus bungeana*.
 Pink. See *Dianthus requienii*.
Pinus bungeana, 79179.
sylvestris, 79971.
Pisum elatius, 78801.
Pithecolobium lobatum, 79564.
 Plantainlily. See *Niobe* sp.
 Plum. See *Prunus cerasella*.
 hybrid. See *P. salicina* × *dasycarpa*.
- Poa annua*, 78802.
bulbosa vivipara, 78803.
longifolia planifolia, 78804.
nemoralis, 78805.
- Pollinia fulva*. See *Eulalia fulva*.
Pongamia glabra. See *P. pinnata*.
pinnata, 79543.
- Pontic azalea. See *Rhododendron luteum*.
 Powell crinum. See *Crinum powellii*.
Pratia begonifolia, 79555.
- Primrose. See *Primula* spp.
 polyanthus. See *P. polyantha*.
- Primula* spp., 78711-78713, 78865.
apocrita, 79097.
burmanica, 79098.
capitata, 78912.
chionantha, 78913, 79099.
chrysopa, 79100.
conspersa, 79101.
cyanantha, 79102.
florindae, 79103.
glycosma, 79104.
helodoxa, 78866, 79105.
lichiangensis, 79106.
littoniana, 79107, 79108.
nutans, 79109.
polyantha, 78867.
prenantha, 78710.
sikkimensis, 78868, 79110.
smithiana, 79111.
- Proso. See *Panicum miliaceum*.
Prunus amygdalus. See *Amygdalus communis*.
armeniaca, 79360-79365.
cerasella, 78518.
cerasifera divaricata, 78806.
domestica × *amygdalus persica*, 78519-78522.
nana georgica. See *Amygdalus georgica*.
salicina × *dasycarpa*, 78523.
persica. See *Amygdalus persica*.
- Psidium guajava*, 78672.
Psoralea gueinzii, 78549.
- Pterocarya caucasicca*. See *P. fraxinifolia*.
fraxinifolia, 78807.
- Pyrus* spp., 78589-78593, 78674.
folgneri. See *Sorbus folgneri*.
- Quercus* sp., 78515.
acuta, 78657.
acutissima, 78658.
castanopsifolia, 78612.
cerris, 78578, 78579, 79556, 79557.
dentata, 78659.
glauca, 78660.
konishii, 78613.
miyagii, 78614.
mongolica grosseserrata, 78661.
myrsinaefolia, 78662.
stenophylla, 78663.
tomentosicupula, 78615.
- Redpepper, common. See *Capsicum annuum*.
 Redvein enkianthus. See *Enkianthus campanulatus*.
Rhododendron spp., 78568, 78569, 78714-78737.
decorum, 79011.
luteum, 78875.
oldhamii, 78540.
phoeniceum smithii. See *R. pulchrum*.
pulchrum, 78541.

Rhododendron—Continued.

- ripense*, 78542.
smirnowi, 79042.
tschonokii, 79043.
Ribes reclinatum, 78525.
 Rice. See *Oryza sativa*.
Rosa spp., 78738–78739.
 foetida, 78944.
 foetida bicolor, 78945.
 lutea. See *R. foetida*.
Roscoea purpurea, 78914.
 Rose. See *Rosa* spp.
 Austrian brier. See *Rosa foetida*.
 Austrian copper brier. See *R. foetida*
 bicolor.
 Rose daphne. See *Daphne cneorum*.
 Roselle. See *Hibiscus sabdariffa*.
 Rubber, lombiro. See *Cryptostegia* sp.
Ruscus aculeatus, 78684, 79180.
 racemosus. See *Danae racemosa*.

Saguerus langkab, 79565.*Sandoricum indicum*. See *S. koetjape*.
koetjape, 79558.Santol. See *Sandoricum koetjape*.*Saraca cauliflora*, 78609.
indica, 78524.Sawleaf zelkova. See *Zelkova serrata*.*Scaevola platyphylla*, 79143.
striata, 79144.*Schefflera* sp., 78740.
actinophylla, 79145.*Schizandra* sp., 78741.*Scilla roseni*, 79928.*Scirpus supinus*, 79572.*Seaforthia* sp., 78529.Sedge. See *Scirpus supinus*.*Sedum aizoon*, 78946, 79292.

- album*, 78947, 78948.
 altissimum, 78949.
 amplexicaule, 79293.
 anacampseros, 79294.
 anglicum, 79295.
 anomalum, 79296.
 anopetalum, 78950, 79297.
 asiaticum, 78951.
 alhoun, 79298.
 atropurpureum, 79299.
 boloniense, 79300.
 brevifolium, 79302.
 carpaticum, 79303.
 corsicum, 79304.
 crassipes, 78952.
 dasyphyllum, 78953, 79181, 79305.
 douglasii, 79306.
 ellacombianum, 78954, 79044.
 euphorbioides, 79307.
 ewersii, 78955, 79045, 79338.
 fabaria, 79308.
 gattefossii, 79309.
 glaucum, 79310.
 gracile, 79311.
 hirsutum, 79312.
 jaccardi, 79313.
 kamtschaticum, 78956.
 laggeri, 79314.
 leblancei, 79315.
 magellense, 79316.
 maximum, 78957, 79317.
 middendorffianum, 79046, 79318.
 murale, 79319.
 nevi, 79320.
 nicaeense, 79321.
 nuttallianum, 79322.
 obtusifolium, 79323.
 ochroleucum, 79324.
 palmeri, 79325.
 pilosum, 78958, 79326.
 populifolium, 78959.
 pseudospectabile, 79327.
 purpurascens, 79328.
 rhodiola. See *S. roseum*.
 roseum, 79329.
 rubens, 79330.
 rupestre, 78960.
 selskianum, 79331.
 semenovii, 78961.
 sempervivum, 79332.
 spathulifolium, 79333.

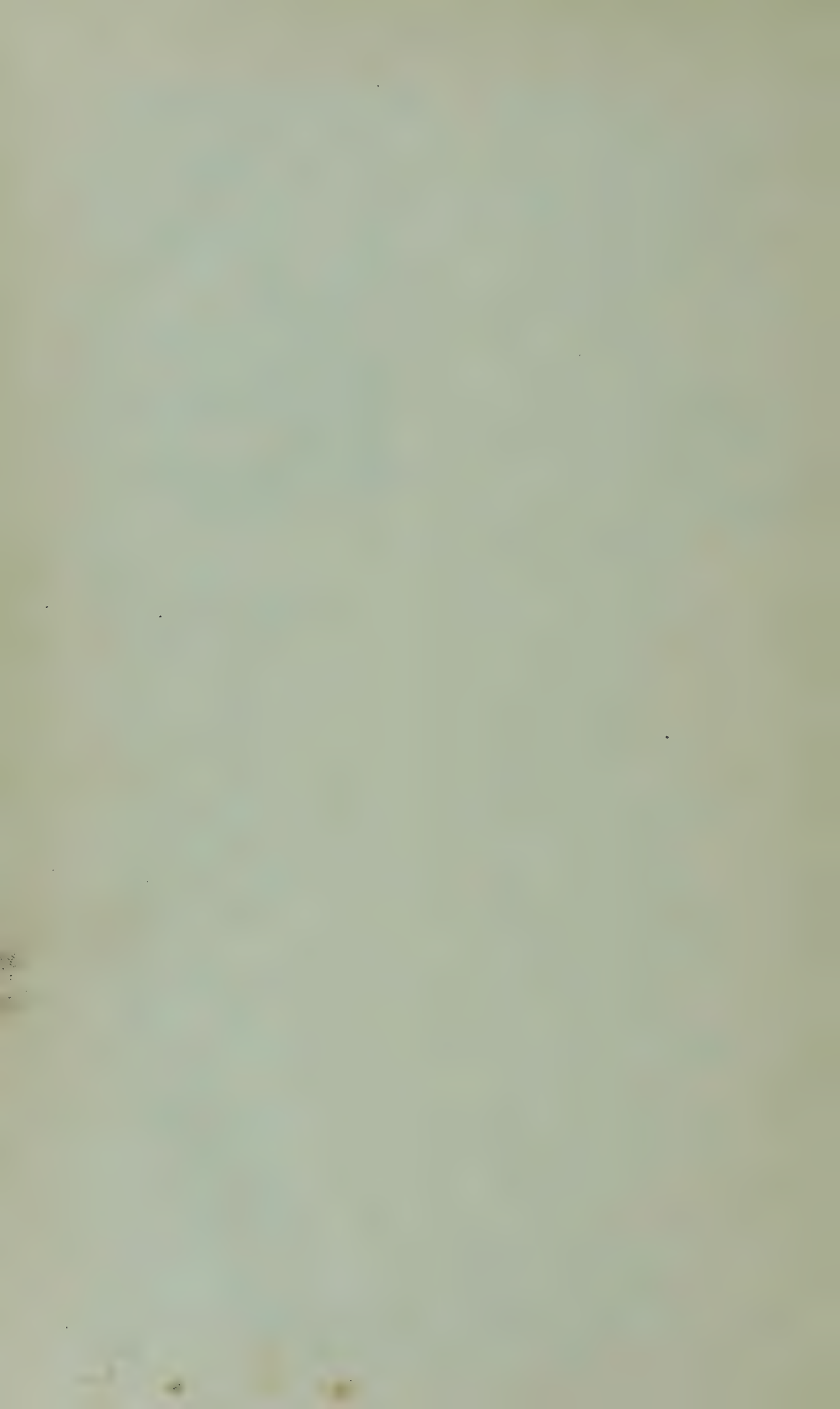
Sedum—Continued.

- spurium*, 78962.
 stahlianii, 79334.
 stellatum, 79335.
 stenopetalum, 79336.
 strobilini, 79337.
 telephium, 78963.
 telephium borderi, 78964, 79301.
 villosum, 79339.
 woodwardi, 79340.
 yunnanense, 79341.
Sempervivum arachnoideum, 79182.
 arenarium, 78965.
 arvernense, 79183.
 assimile, 79047.
 barbatum, 78966.
 glaucum, 78967.
 haworthii, 79184.
 sanguineum, 78968.
 schnittspahnii, 78969.
 tectorum, 78970–78972.
 triste, 79048.
 veroli, 78973.
Setaria italica. See *Chaetochloa italica*.
Sisyrinchium borcale, 78869.
 californicum, 78696.
 filifolium, 78870.
Skimmia japonica, 78685.
 oblata. See *S. japonica*.
 Smirnow rhododendron. See *Rhododendron*
 smirnowi.
Soja max, 79583–79887.
Solanum ellipticum, 79146.
 melongena, 79350–79359.
Sortus folgeri, 79040.
 Sorghum. See *Sorghum vulgare*.
Sorghum vulgare, 79888–79892.
 Soybean. See *Soja max*.
 Spikeheath. See *Bruckenthalia spiculifolia*.
Spiraea henryi, 78554.
Spiraea, Henry. See *Spiraea henryi*.
 Squill. See *Scilla roseni*.
Stapelia atrata, 79493.
 ciliolulata, 79494.
 clypeata, 79495.
 discolor, 79496.
 divergens, 79497.
 mutabilis, 79498, 79499.
 planiflora, 79500.
 rugosa, 79501.
 trifida, 79502.
 Star-of-Bethlehem. See *Ornithogalum* spp.
Stenocarpus cunninghamii, 79147.
 Stonecrop. See *Sedum* spp.
 aizoon. See *S. aizoon*.
 ewersii. See *S. ewersii*.
 great. See *S. maximum*.
 leafy. See *S. dasyphyllum*.
 middendorffii. See *S. middendorffianum*.
 orange. See *S. kamtschaticum*.
 poplar. See *S. populifolium*.
 roseroot. See *S. roscum*.
 shortleaf. See *S. brevifolium*.
 shy. See *S. anacampseros*.
 stahl. See *S. stahlianii*.
 violet. See *S. ewersii*.
 white. See *S. album*.
Stranvaesia davidiana salicifolia, 79049.
 Strawberry. See *Fragaria hayatai*.
Swainsona coronillaefolia. See *S. galegi-*
 folia.
 galegifolia, 79955.
Swartzia grandiflora. See *Toumatea simplex*.
 Sweetclover. See *Melilotus* spp.
 white. See *M. alba*.
Syringa julianae, 78555.
 komarowi sargentiana, 78556.
 pinetorum, 79050.
 sweginzowii, 79051.
 villosa, 79052.

Tamarind. See *Tamarindus indica*.*Tamarindus indica*, 78534.*Thrinax morrisii*, 79544.*Thryptomene* sp., 79956.Tigerflower, common. See *Tigridia pavonia*.*Tigridia pavonia*, 79551–79554.*Tilimia caryotaefolia*, 79559.

Timothy. See *Phleum phleoides*.
 Tobacco. See *Nicotiana tabacum*.
 Tomato. See *Lycopersicon esculentum*.
Toumatea simplex, 79545.
Trachypyrnium sp., 79957.
Trifolium campestre, 78808.
 lupinaster, 78608.
 pratense, 78570-78573.
Triticum aestivum, 78809, 78815, 78816,
 78828, 78829, 79893-79898.
 dicoccum, 79899.
 durum, 78810, 78811, 79900.
 persicum, 78812, 78813.
 turgidum, 78814.
 vulgare. See *T. aestivum*.
 Troutlily. See *Erythronium grandiflorum*
 albiflorum.
 Tulip. See *Tulipa schmidtii*.
Tulipa schmidtii, 78788.
Ulmus elliptica, 79929.
 Undetermined, 78743.
Viburnum buddleifolium, 78557.
 dasyanthum, 78974.
 harryanum, 78558.
Vicia faba, 79901.
Vigna sinensis, 79527, 79902.
Viola sp., 78742.
 Violet. See *Viola* sp.
Vitis sp., 78675.
 davidii, 78817.
 vinifera, 78833-78851.

Wahlenbergia bivalvis, 79526.
 Watermelon. See *Citrullus vulgaris*.
 Wattle, hairy. See *Acacia pubescens*.
 Wheat, common. See *Triticum aestivum*.
 durum. See *T. durum*.
 Persian. See *T. persicum*.
 poulard. See *T. turgidum*.
 Wingnut, Caucasian. See *Pterocarya fraxi-*
 nifolia.
 Wintersweet. See *Meratia praecox grandiflora*.
 Woodbetony. See *Pedicularis* spp.
 European. See *P. palustris*.
 Yellow alstroemeria. See *Alstroemeria*
 aurantiaca.
Yucca aloifolia, 78582.
Zea mays, 79903.
Zelkova acuminata. See *Z. serrata*.
 carpinifolia, 79149.
 serrata, 79148.
 ulmoides. See *Z. carpinifolia*.
Zephyranthes atamasco, 78583.
 candida, 80015.
 robusta, 80016.
 rosea, 80017.
 sulphurea, 80018.
 Zephyrlily. See *Zephyranthes* spp.
 autumn. See *Z. candida*.
 pink. See *Z. rosea*.



UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 99



Washington, D. C.

Issued November, 1930

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, APRIL 1 TO JUNE 30, 1929 (Nos. 80019-80810)

CONTENTS

	Page
Introductory statement.....	1
Inventory.....	3
Index of common and scientific names.....	43

INTRODUCTORY STATEMENT

The present inventory of the materials received between April 1 and June 30, 1929 (F. P. I. 80019-80810), is a record of the seeds and plants that came in through the Office of Foreign Plant Introduction by exchange, gift, and purchase. It does not in any way record the materials on hand, nor can it serve as a basis for request from experimenters.

To illustrate the point more specifically, the numerous palms may be cited. These were assembled for the specific purpose of growing plants for permanent planting at the United States Plant Introduction Garden at Chapman Field near Coconut Grove, Fla., to become a future source of seed. Plants from these seeds will not be available until they themselves produce seed, which in most cases will be a matter of many years. Other plants from which propagating material can be had more rapidly will be more rapidly available.

It is most unfortunate that these delays must occur or that this explanation should be given again and again, but inquiries for unavailable material are received too frequently to warrant its omission.

In addition to the considerable list of palms for testing in the South, there is a large group of *Ficus* spp. (80417-80421), not including the collection of fig varieties (80150-80153) from Tunis, and those (80294-80299) that came with a collection of grape cuttings (80300-80303) from Haifa, Palestine. These trees and shrubs are for careful testing in the extreme South as possible ornamentals.

This inventory records a collection of seeds (80060-80074) from South Yarra, Melbourne, Victoria, Australia, that contains several acacias, a eucalyptus, and several vines and trees not previously introduced.

Nos. 80076-80088 record a collection of seeds from the Lloyd Botanic Garden, Darjiling, India, including several barberries not yet well known in the United States, the difficult *Iris clarkei*, and several other ornamental plants not well established in this country.

Possibly more than anything else, the inventory is notable for the large collections which reflect the operations of W. F. Morse and P. H. Dorsett, now traveling in the Orient particularly to find new strains and varieties of soybeans that are expected to prove useful for American farms.

The botanical determinations have been made and the nomenclature determined by H. C. Skeels, who has had general supervision of this inventory.

KNOWLES A. RYERSON,
Principal Horticulturist, in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., May 10, 1930.

INVENTORY¹

80019 to 80030. SOLANUM TUBEROSUM L. Solanaceae. Potato.

From Latvia. Seeds obtained through William Stuart, Bureau of Plant Industry. Received December, 1928: Numbered in May, 1929.

80019. No. 1.	80025. No. 7.
80020. No. 2.	80026. No. 8.
80021. No. 3.	80027. No. 9.
80022. No. 4.	80028. No. 10.
80023. No. 5.	80029. No. 11.
80024. No. 6.	80030. No. 12.

80031. CUCUMIS SATIVUS L. Cucurbitaceae. Cucumber.

From Keijo, Chosen. Seeds presented by John V. Lacy, Korea Council of Religious Education. Received May 2, 1929.

This cucumber is said to have a flavor superior to that of the ordinary varieties found in the United States. The fruit is slightly smaller, but in addition to the rich flavor it has small seeds and sometimes is almost seedless.

80032. LYCOPERSICON ESCULENTUM Mill. Solanaceae. Tomato.

From Tela, Honduras. Seeds presented by Alfred F. Butler, Horticulturist of the Research Department of the United Fruit Co. Received May 2, 1929.

Variety *pimpinellifolium*. From the La Fragua farm. A vigorous and comparatively hardy South American variety, sometimes called the "currant tomato," which grows wild in Peru and Brazil. The red fruits, somewhat larger than a large currant, are produced in racemes of eight or nine, and are excellent for preserving. This variety is quite common in Honduras.

For previous introduction see No. 56797.

80033. SPARTINA TOWNSENDI H. and J. Groves. Poaceae. Grass.

From Poole, Dorset, England. Plants purchased from Bob Cartridge, through H. N. Vinall, Bureau of Plant Industry. Received April 27, 1929.

Prof. F. W. Oliver, University College, London, regards *Spartina townsendi* as a probable hybrid between *S. stricta* and *S. alterniflora*. It appeared at Hythe, Southampton, England, about 1879, and has spread rapidly on the mud flats, reclaiming the land. It is eaten eagerly by cattle and pigs and is also promising as a paper-making material, but at present the cost of harvesting is large.

For previous introduction see No. 58986.

80034. PHYLLOSTACHYS EDULIS (Carr.) H. de Lehaie. Poaceae. Bamboo.

From Anderson, S. C. Rhizomes presented by Rufus Fant about April 15, 1926, and subsequently grown at the Barbour Lathrop Plant Introduction Garden, Savannah, Ga. Numbered in May, 1929.

The rhizomes of this giant hairy-sheath edible bamboo were taken from the bamboo grove in the city cemetery at Anderson, one of several groves of this bamboo started by Mr. Fant from the increase from a plant he procured about 1890 or 1893 from an importer on the Pacific coast. It was understood to have come from Japan.

80035. PISTACIA INTEGERRIMA Stewart. Anacardiaceae. Pistache.

From Kew, England. Seeds presented by Dr. W. J. Bean, Curator, Royal Botanic Gardens. Received May 4, 1929.

A large tree up to 40 feet high, native to the warm slopes of the Himalayas in northern India. The aromatic pinnate leaves are made up of four to five pairs of lanceolate leaflets with an oblique base. The small inconspicuous flowers are in racemose clusters and are followed by the bright-green drupes which are about a fourth of an inch across. This tree yields the famous zebra wood of India.

For previous introduction see No. 36065.

¹ It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

80036 to 80040.

From Miyazaki, Japan. Cuttings presented by Shigeki Matsubara, Miyazaki College of Agriculture. Received May 6, 1929.

80036. *PRUNUS SERRULATA* Lindl. Amygdalaceae. Oriental cherry.

Aohada. A variety used extensively by the Japanese as a stock on which the better varieties are grafted.

80037 to 80040. *VITIS VINIFERA* L. Vitaceae. European grape.80037. *Chikuma*.80039. *Kôshû*.80038. *Enshin*.80040. *Zenkôji*.80041. *CASTANOPSIS* sp. Fagaceae. Evergreen chinquapin.

From Sandakan, British North Borneo. Seeds presented by D. D. Wood, Conservator of Forests. Received April 22, 1929.

80042. *BAUHINIA MALABARICA* Roxb. Caesalpiniaceae.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received April 13, 1929.

A small erect bushy tree, with thick rigid deeply bifid somewhat heart-shaped leaves 2 to 3 inches long. The small white flowers are in dense sessile axillary clusters. The rather turgid, straight, firm, narrow pods are a foot long. Its native habitat is the mountainous country of northeastern India.

For previous introduction see No. 52746.

80043. *SPARTINA TOWNSENDI* H. and J. Groves. Poaceae. Grass.

From London, England. Seeds presented by Prof. F. W. Oliver, University College, through H. N. Vinall, Bureau of Plant Industry. Received May 6, 1929.

Seeds gathered from plants growing in the Netherlands which had originated in roots obtained from Poole, England, in 1925.

For previous introduction and description see No. 80033.

80044. *PINUS INSULARIS* Endl. Pinaceae. Pine.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received April 24, 1929.

A tall 3-needle tropical pine which grows on the highlands in the Philippine Islands between altitudes of 3,000 and 8,000 feet. The flaccid slender leaves are 7 to 9 inches long, and the ovoid cones are about 3 inches long.

80045. (Undetermined.)

From West Africa. Seeds presented by G. W. Harley, Methodist Episcopal Mission, Ganta, Liberia. Received May 6, 1929.

A shrub or small tree growing in the interior of Liberia at an altitude of 1,000 feet. The fruits resemble the American cultivated black cherry in flavor, though they are much more acid, perhaps more closely approaching the flavor of the cranberry.

80046. *IPOMOEA MACALUSOI* Mattei. Convolvulaceae. Morning-glory.

From Italian Somaliland, Africa. Seeds collected by Dr. Mario Calvino, San Remo, Italy. Received May 7, 1929.

A very floriferous morning-glory, native to Italian Somaliland, with pubescent woody stems, broadly cordate villous leaves on long petioles, and axillary cymes of large campanulate orange-colored flowers margined with red.

80047. *FICUS CONORA* King. Moraceae. Fig.

From Summit, Canal Zone. Cuttings presented by J. E. Higgins, Director, Canal Zone Experiment Gardens. Received May 3, 1929.

A tree, native to New Guinea, with softly pubescent branchlets, lanceolate entire leaves 7 inches long, pubescent beneath, and turbinate fruits, an inch in diameter, borne on long flexuose leafless branches arising at the base of the trunk.

For previous introduction see No. 77658.

80048. *CARICA CAULIFLORA* Jacq. Papayaceae.

From Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus, Zacuapam, Huatusco, Vera Cruz. Received April 29, 1929.

This relative of the papaya is a tree 9 to 12 feet high, which is cultivated and probably native to Central America and Mexico. The trunk is crowned with large leaves that are cordate at the base and have the tip lobed about half way down into acuminate segments. The inconspicuous inodorous flowers are followed by ovoid yellow fruits 3 to 4 inches long.

80049. *CYRILLA RACEMIFLORA* L. Cyrillaceae. Leatherwood.

From Germantown, Philadelphia, Pa. Seeds purchased from Conyers B. Fleu. Received April 29, 1929.

A shrub or small tree up to 30 feet high, native from Virginia to Florida and Texas and extending to the West Indies and northern South America. The lustrous bright-green oblong leaves, 2 to 3 inches long, are evergreen in the South and turn to orange and scarlet in the northern deciduous form which is hardy as far north as New York. The small white flowers are borne in graceful racemes.

80050 and 80051. *ORYZA SATIVA* L. Poaceae. Rice.

From Pargannas District, Bengal, India. Seeds obtained through Robert Frazer, American Consul General, Calcutta, India. Received April 29, 1929.

80050. *Dakhina Patnai*. A variety grown in the saline southern tracts of Pargannas District, especially in the Sunderbuns, the delta of the Ganges.

80051. *Uttara Patnai*. A sweet variety grown in the northern tract of Pargannas District.

80052. *DEGUELIA TRIFOLIATA* (Lour.) Taub. (*Derris uliginosa* Benth.). Fabaceae.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, Director of the Java Botanic Gardens. Received April 24, 1929.

80052—Continued.

A large, handsome, leguminous woody climber native to Burma and the East Indies. The compound leaves are a foot or more long, with 9 to 13 leaflets, and the bright-red flowers, three-fourths of an inch long, are in lax racemes. The roots, which yield an effective insecticide, are used in India as a fish poison.

For previous introduction see No. 69379.

80053. *BARLERIA LUPULINA* Lindl.
Acanthaceae.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, Director of the Agricultural Experiment Station of the Office of Experiment Stations of the United States Department of Agriculture. Received May 3, 1929.

A compact bush, about 2 feet high, with long narrow dark-green leaves having rose-colored midribs and yellow flowers. It seeds freely, withstands dry weather remarkably well, is easily grown from soft wood cuttings, and makes a very ornamental hedge. Because of its seeding habits it is a bad weed if allowed to spread. It might be crossed with *Barleria cristata* to get a seedless form that would withstand dry weather better and be less subject to scale than the latter.

80054. *PRIMULA ANISODORA* Balf. and
Forr. Primulaceae. Primrose.

From Ipswich, England. Seeds purchased from Thompson & Morgan. Received May 3, 1929.

A primrose about a foot and a half high, native to Yunnan, China, with broadly oval membranous leaves up to 8 inches long and whorls of aromatic flowers which are rich maroon-crimson with a bright-yellow zone. This primrose belongs to the Candelabra section.

80055 to 80059.

From Enfield, Middlesex, England. Plants purchased from Perry's Hardy Plant Farm. Received April 6, 1929.

80055 to 80058. *CHRYSANTHEMUM MAXIMUM* Ramond. Asteraceae.
Pyrenees chrysanthemum.

80055. *Conqueror*.

80056. *Laciniata*.

80057. *Moonlight*.

80058. *Plenum*.

80059. *HELENIUM AUTUMNALE* L. Astera-
ceae. Sneezeweed.

Baronne de Linden.

80060 to 80074.

From South Yarra, Melbourne, Victoria, Australia. Seeds presented by F. J. Rae, Director of the Melbourne Botanic Gardens. Received April 22, 1929.

80060 to 80064. *ACACIA* spp. Mimosa-
ceae.80060. *ACACIA FALCATA* Willd. Burra.

An evergreen tree, 20 to 30 feet high, with few slender branches and small yellow flowers in dainty spherical clusters on racemes borne in the axils of the dark glossy green falcate leaves. The timber is hard, heavy, and tough.

For previous introduction see No. 75589.

80060 to 80074—Continued.

80061. *ACACIA LONGIFOLIA* SOPHORAE
(Labill.) F. Muell.

A yellow-flowered, rapid-growing evergreen shrub or small tree, 15 to 20 feet high, excellent for preventing the encroachments of the sea along sandy coasts. It frequents the sea-coast of southeastern Australia from southern Queensland to South Australia, and also Tasmania.

For previous introduction see No. 56572.

80062. *ACACIA MAIDENII* F. Muell.

A tall evergreen shrub or tree up to 50 feet high, native to New South Wales, with lanceolate-falcate phyllodes 4 to 6 inches long, axillary spikes an inch long of bright-yellow flowers followed by narrow twisted pods.

80063. *ACACIA RUPICOLA* F. Muell.

A glabrous evergreen shrub usually about 5 feet high, native to Victoria and South Australia, with angular branchlets, rigid linear sharp-pointed phyllodes half an inch long, and yellow flowers in small globular heads.

80064. *ACACIA SALICINA* Lindl. (*A. ligulata* A. Cunn.).

A tall shrub or small tree, native to Australia, with pendulous branches and willowlike phyllodes up to 5 inches long. The yellow flowers are in short racemes of two or three globular heads.

For previous introduction see No. 75606.

80065. *CALICOMA SERRATIFOLIA* Andrews.
Cunoniaceae.

A tall evergreen shrub or tree up to 40 feet high, native to New South Wales and Queensland, with opposite coarsely serrate leaves 4 inches long, white or rusty underneath, and dense globular heads of small yellowish flowers in terminal panicles.

For previous introduction see No. 76933.

80066. *EUCALYPTUS CORYMBOSA* J. E.
Smith (*E. gummifera* Hort.). Myrta-
ceae.

A medium-sized evergreen tree native to Australia, with leathery lanceolate leaves and large corymbs of fragrant yellowish white flowers.

For previous introduction see No. 75621.

80067. *EUCALYPTUS SIDEROPHLOIA* Benth.
Myrtaceae. Broadleaf ironbark.

A tall evergreen tree, native to Queensland and New South Wales, with hard persistent rough bark, thick lanceolate-falcate leaves 3 to 6 inches long, and terminal corymbose panicles of small white flowers followed by ovoid fruits one-fourth of an inch long. The heavy durable wood is used for wagon work, tool handles, and building purposes.

80068. *GREVILLEA HILLIANA* F. Muell.
Proteaceae.

A large evergreen tree 60 feet or less high, native to Australia, with leaves varying from elliptical and entire, 6 to 8 inches long, to a foot long and deeply pinnatifid with five or seven lanceolate lobes. The small red flowers are in

80060 to 80074—Continued.

dense cylindrical racemes 4 to 8 inches long.

For previous introduction see No. 40044.

80069. HALFORDIA DRUPIFERA F. Muell.
Rutaceae.

A small evergreen tree, native to Australia, with angular branchlets, lanceolate leaves 3 to 5 inches long, and terminal panicle clusters of small white flowers followed by purple ovoid drupes about half an inch long.

80070. KENNEDIA RUBICUNDA (Schneev.) Vent. Fabaceae.

A climbing evergreen leguminous shrub with dark-green leaves and large attractive dark-red flowers. Of possible value as a forage plant and for green manure.

80071. LOMATIA FRAXINIFOLIA F. Muell.
Proteaceae.

A tall evergreen shrub or small tree, native to Queensland, with pinnate leaves made up of three to seven coriaceous ovate coarsely toothed leaflets 2 to 4 inches long, and small creamy white flowers in racemes 6 to 8 inches long or gathered together to form a large terminal panicle.

80072. SWAINSONA GALEGIFOLIA (Andrews) R. Br. (*S. coronillifolia* Salisb.). Fabaceae.
Darling pea.

A low shrubby perennial, native to Australia, with compound vetchlike leaves and scarlet-orange flowers borne on long axillary stems. Reported to be poisonous to livestock.

For previous introduction see No. 77447.

80073. SYNCARPIA GLOMULIFERA (J. E. Smith) Niedenzu. Myrtaceae.

A tall slender evergreen tree, native to Australia, with broadly ovate leaves 2 to 3 inches long, appearing as if in whorls from two pairs being close together. The small white flowers are in globular clusters of 6 to 10 on short peduncles at the base of the new shoots. The wood is valuable for posts and other underground construction work.

For previous introduction see No. 75572.

80074. TRICONDYLUS MYRICOIDES (Gaertn. f.) Kuntze (*Lomatia longifolia* R. Br.). Proteaceae.

An evergreen shrub 8 to 10 feet high, native to New South Wales and Victoria, with very narrow lance-shaped leaves, and terminal or axillary racemes of creamy white flowers. The fruit is an oval-oblong follicle, and the seeds are winged. The wood is light colored and very hard, with a beautiful small figure, well suited for turnery.

For previous introduction see No. 43580.

80075. CHAYOTA EDULIS Jacq. (*Seschium edule* Swartz.). Cucurbitaceae.
Chayote.

From Guatemala. Fruit presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received November 26, 1928. Numbered in April, 1929.

No. 1. A large green variety.

80076 to 80088.

From Darjiling, India. Seeds presented by J. E. Leslie, Curator, Lloyd Botanic Garden. Received April 17, 1929.

80076 to 80078. BERBERIS spp. Berberidaceae.
Barberry.

80076. BERBERIS INSIGNIS Hook. f. and Thoms.

A beautiful bush of erect habit, with very few spines and large, shining hollylike evergreen leaves 3 to 7 inches long. The golden-yellow flowers are borne in clusters of about 15 and are followed by ovoid black berries. It is native to the eastern Himalayas.

For previous introduction see No. 60637.

80077. BERBERIS UMBELLATA Wall.

A hardy half-evergreen shrub, native to the Himalayas, about 3 feet high, with reddish brown grooved branchlets, obovate leaves an inch long, and umbellike racemes of yellow flowers which are followed by red berries.

For previous introduction see No. 78918.

80078. BERBERIS WALLICHIANA DC.

A narrow-leaved, evergreen barberry from temperate regions in the Himalayas, where it ascends to about 10,000 feet. The shining black-purple berries are produced in dense clusters.

For previous introduction see No. 65756.

80079. ERIOBOTRYA HOOKERIANA Decaisne. Malaceae.

A small stout-branched tree native to the eastern Himalayas at altitudes of 6,500 to 8,000 feet. It has thick leathery oblong sharply toothed leaves up to a foot long, large panicles of small white flowers, and egg-shaped yellow fruits about three-fourths of an inch long.

For previous introduction see No. 65252.

80080 to 80082. FICUS spp. Moraceae.
Fig.

80080. FICUS BENJAMINA L.
Benjamin fig.

A large tree, up to 80 feet high, native to India, with thin coriaceous ovate leaves 3 inches long and axillary pairs of small globose blood-red fruits.

For previous introduction see No. 67701.

80081. FICUS HISPIDA L. f.

A shrub or small tree up to 30 feet high, native to southeastern Asia, with hairy branches, ovate to obovate obscurely toothed leaves 8 inches long, and turbinate green fruits, nearly an inch in diameter, produced in fascicles on the old wood.

For previous introduction see No. 54892.

80082. FICUS HOOKERI Miquel.

A subtropical tree native to the temperate Himalayas of northeastern India. The oval leaves are up to 11 inches in length.

For previous introduction see No. 68336.

80076 to 80088—Continued.

80083. *ILEX INSIGNIS* Hook. f. Aquifoliaceae. Holly.

An attractive holly native to the Sikkim Himalayas, where it grows at an altitude of 7,000 feet. It forms a small tree or shrub with thick, grooved branches which are purplish when young. The dark-green leathery leaves are pinately lobed, with the lobes spine tipped and alternately raised and depressed, so that there appears to be a double row of spiny lobes on each side. This holly has proved hardy in Ireland and may be suited for growing in the Gulf States and southern California.

For previous introduction see No. 65256.

80084. *IRIS CLARKEI* Baker. Iridaceae. Clarke iris.

A curiously local iris native to the Himalayas in a circumscribed area in the Sikkim and Bhutan region at altitudes between 6,000 and 11,000 feet, in ground that is swampy half the year and frozen hard under snow during most of the remaining months. The narrow leaves, 2 feet long, droop at the tips; the upper surface is polished and shiny, the under side glaucescent. The solid stem is 2 feet long, and bears one or two lateral heads. The falls are blue-purple, blotched with white, and are reflexed laterally. The upper part of the haft is marked with yellow. The reddish purple, lanceolate standards are poised almost horizontally. The styles form the highest point of the flowers; they are keeled, very convex, and $1\frac{1}{2}$ inches long.

For previous introduction see No. 76251.

80085. *MEIBOMIA TILIAEFOLIA* (D. Don) Kuntze (*Desmodium tiliaefolium* Don). Fabaceae.

A large deciduous shrub native to the Himalayas at altitudes ranging from 3,000 to 9,000 feet. It has slender terete branches, thick green trifoliolate leaves about 4 inches long, and red flowers in lax racemes often a foot long. The bark yields an excellent fiber extensively employed in rope making; the leaves are good fodder; and the roots are used medicinally as a tonic and diuretic.

For previous introduction see No. 47726.

80086. *MELOTHRIA ODORATA* Hook. f. and Thoms. Cucurbitaceae.

A climbing herbaceous plant, native to the northwestern Himalayas at an altitude of 7,000 feet, with more or less heart-shaped leaves, white axillary flowers, and white indehiscent fruits.

For previous introduction see No. 47729.

80087. *STYRAX HOOKERI* C. B. Clarke. Styracaceae. Snowbell.

A tree often 40 feet high, native to Sikkim and Bhutan at altitudes ranging from 6,000 to 7,000 feet. The white flowers, an inch long, are tomentose outside, and the young branches are stellately pubescent. The wood is white, close-grained, and moderately hard.

For previous introduction see No. 60656.

80076 to 80088—Continued.

80088. *TSUGA DUMOSA* (D. Don) Eichler (*T. brunoniana* Carr.). Pinaceae. Hemlock.

A tall evergreen tree, sometimes 120 feet high, native to northeastern India, but said to be not quite hardy in England. It has spreading branches and pendulous branchlets. The wood is soft and white, and the bark is used for roofing.

For previous introduction see No. 47819.

80089. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae. Peach.

From China. Seeds obtained through Guy M. Walker, Laurel, Miss. Received May 9, 1929.

From the Imperial Peach Orchards. The fruits are pale green when ripe, with none of the blush or yellow that is peculiar to other peaches; the flavor is delicious.

80090 and 80091.

From Lavras, Minas Geraes, Brazil. Seeds presented by B. H. Hunnicutt, Instituto Gammon. Received May 10, 1929.

80090. *DOLICHOLUS PHASEOLOIDES* (Swartz) Kuntze (*Rhynchosia phaseoloides* DC.). Fabaceae. Rosarybean.

A slender climber with trifoliolate leaves, borne upon slender wiry stems, which suggest those of the common bean (*Phaseolus*). The plant is of interest chiefly for the small, bright-red seeds with a black eye which are strikingly similar to those of *Abrus precatorius*, the crab's eye of the West Indies.

For previous introduction see No. 51027.

80091. *ORMOSIA MONOSPERMA* (Swartz) Urban. Fabaceae. Necklacetree.

The necklacetree is so called because its beans are the size of large beads, three-fourths of an inch long, and of a brilliant scarlet blotched with the deepest brown. The tree comes from tropical South America and fruits during the winter months.

For previous introduction see No. 79542.

80092. *SACCHARUM OFFICINARUM* L. Poaceae. Sugarcane.

From Mayaguez, Porto Rico. Cuttings presented by Robert L. Davis, Agronomist of the Porto Rico Agricultural Experiment Station. Received May 15, 1929.

Mayaguez 51.

80093. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From Kief, Ukraine, Union of Socialistic Soviet Republics. Seeds presented by A. Kol, Chief of the Bureau of Introduction, Institute of Applied Botany, Leningrad. Received May 18, 1929.

No. 93776. An early-maturing variety from the Kief Experiment Station.

80094. CHAYOTA EDULIS Jacq. (*Sechium edule* Swartz). Cucurbitaceae. Chayote.

From Guatemala. Fruits presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received November 26, 1928. Numbered in April, 1929.

No. 2. A medium-sized green variety.

80095. ILEX PURPUREA Hassk. Aquifoliaceae.

Plants growing at the Barbour Lathrop Plant Introduction Garden, Savannah, Ga. Numbered in June, 1929.

A handsome evergreen tree or large shrub native to Japan and central China. The leaves are dark green, glabrous, elliptic-ovate to oblong-lanceolate, crenate-serrulate, and 2 to 3 inches long. In Savannah, Ga., the new leaves appear in late March or early April and the flowers a month later. The red fruits are about one-third of an inch in diameter and are in clusters of two to five on a short peduncle.

80096. PINUS ARMANDI Franch. Pinaceae. Armand pine.

From China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1929.

A tree 70 to 90 feet high with a trunk 4 feet in diameter, which grows in western China on well-drained, moist mountain slopes at altitudes of 8,000 to 10,000 feet. The edible seeds are sold in the markets.

For previous introduction see No. 58538.

80097 to 80099. CHAYOTA EDULIS Jacq. (*Sechium edule* Swartz). Cucurbitaceae. Chayote.

From Guatemala. Fruits presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received November 26, 1928. Numbered in April, 1929.

80097. No. 5. A medium-sized yellowish green variety which is very spiny.

80098. No. 6. A large white spiny variety.

80099. No. 7. A large yellowish green variety which is very spiny.

80100. POLYMNIA EDULIS Wedd. Asteraceae.

From Paris, France. Roots presented by Dr. M. Lemoine. Received April 2, 1929.

A sunflowerlike plant, native to the Andes near Bogota, Colombia, with tall stems, large leaves which are eaten by cattle, and yellow flowers. The edible tubers are white, almost transparent, and very sweet.

80101. ESCALLONIA sp. Escalloniaceae.

From Glasnevin, Dublin, Ireland. Plants presented by J. W. Besant, Botanic Gardens, Department of Agriculture. Received April 5, 1929.

C. F. Ball. A red-flowered hybrid made by C. F. Ball at the Botanic Gardens, Glasnevin. It is believed to be a cross between *Escallonia rubra* and *E. macrantha*.

80102. ASTRAGALUS sp. Fabaceae. Milkvetch.

From Germany. Seeds presented by Carl Froitzheim, Callahan, Fla. Received April 2, 1929.

A plant which grows in the woods near the Rhine River in Germany. It resembles clover when in bloom, but the leaves are more like vetch. The stems are 2 to 3 feet long, with more than 20 on a plant.

80103. PINUS MERKUSII Jungh. and De Vr. Pinaceae. Pine.

From Baleg, Sumatra. Seeds presented by A. Bircher, Middle Egypt Botanic Station, El Saff, Egypt. Received April 2, 1929.

A giant pine which covers a vast area of the poor volcanic soil in northern Sumatra. It grows to a height of 240 feet, is 4 feet in diameter, and yields a superior grade of turpentine and resin.

For previous introduction see No. 67588.

80104. TIGRIDIA PAVONIA (L. f.) Ker. Iridaceae. Common tigerflower.

From Newry, Ireland. Bulbs purchased from T. Smith, Daisy Hill Nursery. Received April 5, 1929.

Variety *alba immaculata*. A form with pure white flowers.

80105. CLEMATIS ARMANDI Franch. Ranunculaceae. Armand clematis.

From Exeter, England. Plants purchased from Robert Veitch & Son, The Royal Nurseries. Received April 4, 1929.

A tender woody Chinese evergreen vine with lustrous coriaceous trifoliate leaves with entire lanceolate leaflets, panicles of white flowers 2 inches across, and fruits with long plumose styles.

For previous introduction see No. 76013.

80106. PINUS NIGRA MAURITANICA Maire and Peyer. Pinaceae. Pine.

From Algiers, Algeria, Africa. Seeds presented by Dr. R. Maire, Jardin Botanique, Université d'Alger. Received April 3, 1929.

A variety of the Austrian pine distinguished by its smaller size, smaller cones, and longer leaves. It is native to Morocco south of Djuradja.

80107. SACCHARUM OFFICINARUM L. Poaceae. Sugarcane.

From Rio Piedras, Porto Rico. Plants presented by R. Fernandez Garcia, Director of the Insular Experiment Station of the Department of Agriculture and Labor. Received April 10, 1929.

D-625.

80108 to 80116. FRAGARIA spp. Rosaceae. Strawberry.

From Breda, Netherlands. Plants presented by Dr. I. Rietsema. Received April 8, 1929.

80108. FRAGARIA sp.

Deutsch Evern.

80109. FRAGARIA sp.

Jucunda.

80108 to 80116—Continued.

80110. FRAGARIA sp.

Laxton Noble.

80111. FRAGARIA sp.

Madame Kooy.

80112. FRAGARIA sp.

Mandan Lefebvre.

80113. FRAGARIA sp.

Oberschlesien.

80114. FRAGARIA sp.

Scarlet.

80115. FRAGARIA sp.

Sieger.

80116. FRAGARIA sp.

Sweet French.

80117. CUCUMIS MELO L. Cucurbitaceae. Melon.

From Tarnab, Peshawar, Northwest Frontier Province, India. Seeds presented by A. M. Mustafa, Agricultural Officer, Northwest Frontier Province, through Renwick S. McNiece, American Consul, Karachi. Received April 10, 1929.

A variety, locally developed, of unusual merit.

80118. DIOSPYROS KAKI L. f. Diospyraceae. Kaki persimmon.

From Japan. Seeds obtained through W. T. Swingle, Bureau of Plant Industry. Received April 10, 1929.

The so-called *Yamagaki*, which is probably a semiwild form of the cultivated Kaki persimmon (*Diospyros kaki*). It is widely used in Japan as a stock for the cultivated varieties of the Kaki persimmon. When Doctor Swingle was in Japan he was assured repeatedly that this is the best stock for persimmons, and for some varieties it is the only one that can be used successfully.

80119 and 80120.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received April 2, 1929.

80119. CLEMATIS GOURIANA Roxb. Ranunculaceae.

Baklo. A tall-climbing Himalayan drought-resistant vine with pinnate leaves of five to seven ovate papery leaflets 4 inches long and yellowish white flowers an inch across in large panicles.

For previous introduction see No. 68332.

80120. FLACOURTIA RUKAM Zoll. and Mor. Flacourtiaceae.

A handsome unarmed Malayan drought-resistant tree with leathery leaves and edible berries about the size of cherries, which are said to make excellent preserves.

80121. HORDEUM VULGARE PALLIDUM Se-
ringe. Poaceae. Six-rowed barley.

From Leningrad, Union of Socialistic Soviet Republics. Seeds presented by A. Kol, Chief of the Bureau of Introduction, Institute of Applied Botany, through H. V. Harlan, Bureau of Plant Industry. Received April 15, 1929.

80121—Continued.

No. 1716. July 7, 1927. Variety *Dundar beyi*. This variety was collected by Doctor Zhukovsky while on an expedition to Asia Minor, 1925 to 1927.

80122. MEROPE ANGULATA (Willd.)
Swingle (*Citrus angulata* Willd.)
Rutaceae. Kigerukkan.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, Director, Botanic Gardens, through W. T. Swingle, Bureau of Plant Industry. Received April 15, 1929.

A small spiny tree native to tidal swamps in southern Java. The thick leathery simple leaves are alternate, and the small white flowers are in axillary pairs. The fruits are 1 to 2 inches long and are triangular in cross section, about an inch on each side. Of possible value as a stock for citrus fruits.

For previous introduction see No. 41452.

80123 to 80125. VITIS spp. Vitaceae. Grape.

From Wiener Neustadt, Austria. Cuttings presented by Kober, Kohlfürst & Gesellschaft. Received April 17, 1929.

80123. VITIS BERLANDIERI × RIPARIA.

*Kober 5 BB.*80124 and 80125. VITIS RUPESTRIS Scheele.
Sand grape.80124. *Rupestris Goethe* No. 9.80125. *Rupestris Schwarzmann.*

80126 to 80139.

From Palermo, Sicily. Plants purchased from Cav. Santarella, Direttore Della Società di Acclimazione. Received April 6, 1929.

80126 and 80127. AMYGDALUS COMMUNIS
L. (*Prunus amygdalus* Stokes). Amygdalaceae. Almond.80126. *Prof. Vita.*80127. *Cavaliera.*80128 to 80134. AMYGDALUS PERSICA L.
(*Prunus persica* Stokes). Amygdalaceae. Peach.80128. *Agostina.*80129. *Carinese.*80130. *Cotogna di S. Stefano.*80131. *Fragolar.*80132. *Sanguigna.*80133. *Spaccarella di Sicilia.*80134. *Do St. Anna.*80135 to 80138. PRUNUS ARMENIACA L.
Amygdalaceae. Apricot.80135. *Di San Giuliano.*80136. *A Mandorla dolce.*80137. *Regina.*80138. *Re Umberto.*

80139. PRUNUS CERASUS L. Amygdalaceae. Sour cherry.

Amarena comune.

80140 to 80143. FRAGARIA spp. Rosa-ceae. Strawberry.

From Histon, Cambridge, England. Plants obtained from Chivers & Sons, through G. M. Darrow, Bureau of Plant Industry. Received April 15, 1929.

80140. FRAGARIA sp.

Madame Koot.

80141. FRAGARIA sp.

Madame La Febera.

80142. FRAGARIA sp.

Paxton.

80143. FRAGARIA sp.

Royal Sovereign.

80144. SACCHARUM OFFICINARUM L. Poaceae. Sugarcane.

From Trinidad, British West Indies. Cuttings presented by Dr. W. G. Freeman, Director of Agriculture. Received April 13, 1929.

D-625.

80145 and 80146. CYNODON DACTYLON (L.) Pers. Poaceae. Bermuda grass.

From Kenilworth, near Cape Town, Union of South Africa. Sod presented by Charles N. Murray. Received April 8, 1929.

80145. Karroo. A variety which derives its name from the district from which it comes. It is a finer variety than *Royal Cape Strain*.

80146. Royal Cape Strain. A coarse variety which has been the standard turf on greens since 1904 in Kenilworth. Its merits are that it is very hard, is drought resistant in a high degree, is never scorched by the hottest sun, stands unlimited wear, and gives a true putting surface which does not develop nap.

80147. CITRUS NOBILIS DELICIOSA (Ten.) Swingle. Rutaceae.

Mandarin orange.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received April 18, 1929.

Seeds taken by Mr. Wester from the two best mandarin oranges ever eaten by him.

80148. SESBANIA CANNABINA (Retz.) Poir. Fabaceae.

From Peradeniya, Ceylon. Seeds purchased from the Manager of the Publication Depot and Central Seed Store of the Department of Agriculture. Received April 19, 1929.

A stout annual plant, native to Ceylon, with prickly branches, compound leaves a foot long made up of 40 to 80 linear leaflets, and subsessile racemes of 3 or 4 yellow flowers about a quarter of an inch long.

For previous introduction see No. 76103.

80149. PHYLLOSTACHYS sp. Poaceae. Bamboo.

From Avery Island, La. Plants presented by E. A. McIlhenny, at the request of R. A. Young, Bureau of Plant Industry. Received April 22, 1929.

80149—Continued.

This is said by Mr. McIlhenny in his letter dated November 19, 1929, to be one (which one is not known) of the two Chinese bamboos sent to him under F. P. I. Nos. 23242 and 23243 from Chico, Calif., April 3, 1914, by the Department of Agriculture. In 1929 one of the tallest culms at Avery Island was 21 feet high. The plants were in poor soil and have grown without attention, according to Mr. McIlhenny. They appear to belong unmistakably to *Phyllostachys*, though the sheaths of the young shoots are so different as at first to suggest the possibility of some other genus.

80150 to 80153. FICUS CARICA L. Moraceae. Common fig.

From Ariana, Tunis, Africa. Scions presented by F. Bœuf, Chef du Service Botanique. Received April 17, 1929.

80150. Angel Djemel.

80151. Bayoudi.

80152. Bidhel atrous.

80153. Bidhel Djemmal.

80154. PYRUS sp. Malaceae. Pear.

From Erfurt, Germany. Trees purchased from J. C. Schmidt. Received April 19, 1929.

Krebs Birne. A variety said to ripen in October and to have red flesh.

80155 to 80167. CAJANUS INDICUS Spreng. Fabaceae. Pigeon pea.

From San Juan, Porto Rico. Seeds presented by O. W. Barrett, Agricultural Director, Department of Agriculture, through Roland McKee, Bureau of Plant Industry. Received April 17, 1929.

80155. Colmenos.

80156. New Era.

80157. No. 8. Venezuela.

80158. No. 813. Dominica.

80159. No. 4427.

80160. No. 4445.

80161. No. 4464. Cadiz.

80162. No. 4651. Yaguis.

80163. No. 4652.

80164. No. 4656.

80165. No. 4657.

80166. No. 4659.

80167. No. 4679.

80168. SOLANUM TUBEROSUM L. Solanaceae. Potato.

From Lamlash, Scotland. Tubers presented by Donald MacKelvie. Received April 22, 1929.

Arran Banner.

80169. SACCHARUM OFFICINARUM L. Poaceae. Sugarcane.

From Santiago de las Vegas, Cuba. Cuttings presented by Dr. Gonzalo Fortún, Director de la Estación Experimental Agronómica. Received April 23, 1929.

D-625.

80170 to 80193.

From the British West Indies. Seeds collected by Allison V. Armour. Received April 10, 1929.

Unless otherwise stated, the following material is from the Trinidad Botanic Gardens.

80170. ACANTHORHIZA ACULEATA (Liebm.) Wendl. Phoenicaceae. Rootspine palm.

A palm, native to Mexico, with a trunk 30 to 40 feet high, armed at the base with spines formed of the thickened aerial roots. The orbicular fan-shaped leaves are about 5 feet in diameter on stalks 4 feet long; the flowers are dark creamy pink.

For previous introduction see No. 45906.

80171. ARCHONTOPHOENIX ALEXANDRAE (F. Muell.) Wendl. and Drude (*Ptychosperma alexandrae* F. Muell.). Phoenicaceae. Palm.

A palm with a tall stout trunk up to 80 feet high and pinnately segmented leaves several feet long which are bright green above and whitish underneath. It is native to Australia.

For previous introduction see No. 40069.

80172. ARECA CATECHU L. Phoenicaceae. Betel palm.

A palm, native to tropical Asia, up to 100 feet high, with a large crown of pinnate leaves 4 to 6 feet long. The orange or scarlet ovoid fruits, 1 to 2 inches long, furnish the betel nuts which are so generally used in the Orient for chewing.

For previous introduction see No. 66201.

80173. ARTOCARPUS COMMUNIS Forst. Moraceae. Breadnut.

A tree, native to the East Indies, 30 to 40 feet high, with viscid milky juice and leathery ovate leaves 3 feet long, entire at the base but divided above into three to nine lobes. The large fruits, 4 to 6 inches in diameter, are often seedless, but in this variety the seeds are present and are much the size and flavor of chestnuts.

For previous introduction see No. 61269.

80174. ASSONIA MASTERSII (Hook.) Kuntze (*Dombeya mastersii* Hook.). Sterculiaceae.

St. Vincent Botanic Gardens. A shrub 4 to 5 feet high, with serrate heart-shaped velvety leaves and many-flowered umbels of fragrant white flowers. It is native to tropical Africa.

80175. ATTALEA SPECTABILIS Mart. Phoenicaceae. Palm.

A nearly stemless palm with large pinnate erect or spreading leaves up to 21 feet long. It is native to the banks of the Amazon in Brazil.

For previous introduction see No. 79560.

80176. BARRINGTONIA ASIATICA (L.) Kurz (*B. speciosa* Forst.). Lecythidaceae.

A large handsome tree, 50 feet high, with thick leathery bright-green leaves a foot long, racemes of large showy flowers having white petals, and crimson-tipped stamens resembling a brush. The smooth

80170 to 80193—Continued.

shining black fruits are shaped like a 4-sided pyramid and are 3 to 4 inches long on each side. It is native to the East Indies.

For previous introduction see No. 73226.

80177. BORASSUS FLABELLIFER L. Phoenicaceae. Palmyra palm.

A palm, native to tropical Africa, which is 60 to 70 feet high, with a crown of palmate leaves, 8 to 10 feet long and broader than long, divided to the middle into sword-shaped segments. The broadly ovoid orange-colored fruits are about half the size of a coconut.

For previous introduction see No. 78618.

80178. CARICA PAPAYA L. Papayaceae. Papaya.

From Santo Domingo. A variety producing large, round to oblong fruits with a very fine flavor.

80179. CARYOTA MITIS Lour. Phoenicaceae. Fishtail palm.

St. Vincent Botanic Gardens. A palm, native to the Malay Peninsula, 15 to 25 feet high, which sends out suckers from the base. The pinnate leaves, 6 to 9 feet long, are divided into wedge-shaped segments, and the globular purple fruits are about the size of a cherry.

For previous introduction see No. 68111.

80180. DIALIUM GUINEENSE Willd. Caesalpiniaceae. Velvet tamarind.

St. Vincent Botanic Gardens. A tall pinnate-leaved tree, native to West Africa, with small, dark-brown, velvety edible fruits which are in large clusters. The fruits are about the size of small filberts, and the thin brittle shell incloses one or two seeds surrounded by a mildly acid farinaceous pulp, used in the preparation of pickles and in other ways. The timber is a handsome dark red.

For previous introduction see No. 73846.

80181. ELAEIS GUINEENSIS Jacq. Phoenicaceae. African oil palm.

A stout palm, native to tropical Africa, 20 to 30 feet high, with a deeply ringed trunk and a crown of pinnate leaves 10 to 15 feet long. The seeds are a source of oil, used not only in foods but also in making soaps.

80182. HYOPHORBE VERSCHAFFELTI Wendl. Phoenicaceae. Spindle palm.

A palm, native to the island of Mauritius, with a trunk up to 30 feet high, having a bulge about half way up. The crown is made up of short-petioled pinnate leaves which have a yellow band extending from the leaf sheath to the tip of the blade.

80183. INODES BLACKBURNIANA (Glazebro.) O. F. Cook (*Sabal umbraculifera* Mart.). Phoenicaceae. Blackburn palmetto.

A palm, native to the West Indies, with a spineless trunk, between 30 and 40 feet high, which is thickened in the middle, large round fan-shaped leaves, and pear-shaped fruits an inch and a half long.

80170 to 80193—Continued.

For previous introduction see No. 62105.

80184. LAGERSTROEMIA SPECIOSA (Muench.) Pers. (*L. flos-reginae* Retz.).
Lythraceae. **Queen crapemyrtle.**

Tobago Gardens. An ornamental tropical shrub or tree up to 50 feet high, native to West Africa, with panicles of large pink or purple flowers.

For previous introduction see No. 73736.

80185. LATANIA COMMERSONII Gmel. Phoenicaceae.

A tall spineless palm, native to the island of Mauritius, 30 to 40 feet high, with palmate leaves 5 to 6 feet long, having a red petiole and with the veins and margins tinged with red.

For previous introduction see No. 68118.

80186. LIVISTONA AUSTRALIS (R. Br.) Mart. Phoenicaceae.

Australian fan palm.

A tall slender palm, native to Australia, 100 to 130 feet high and 12 to 18 inches in diameter, with a dense crown of circular leaves, 3 to 4 feet in diameter, divided nearly to the base into narrow plicate segments. The moderately hard light-colored wood is occasionally used for light construction; the leaves are used for baskets; and the unexpanded fronds, after being dipped in boiling water, are dried, shredded, and the fiber used in making hats resembling Panama hats.

For previous introduction see No. 77971.

80187. LIVISTONA CHINENSIS R. Br. Phoenicaceae.

Chinese fan palm.

A palm, native to China, with a short thick trunk up to 6 feet high and a foot thick, having a crown of many reniform palmately divided leaves 4 to 6 feet across on petioles about 5 feet long, which are armed below the middle with recurved brown spines more than an inch in length.

80188. MARTINEZIA CORALLINA Mart. Phoenicaceae.

Palm.

A pinnate-leaved palm about 20 feet high, with a spiny stem and coral-red fruits. It is native to Martinique.

80189. PORTLANDIA GRANDIFLORA L. Rubiaceae.

A tropical shrub up to 15 feet high, native to the West Indies, with opposite elliptical leathery leaves and axillary fragrant white flowers which are funnel-form and 5 inches long.

80190. PTYCHOSPERMA MACARTHURI Wendl. (*Kentia macarthurii* Hort.). Phoenicaceae.

MacArthur palm.

A palm, native to Australia, which grows to a height of 30 feet, but is usually a dwarf in cultivation; it suckers from the base, making a bushy plant. The smooth ringed trunk is crowned by a dense cluster of pinnate leaves with arching leaflets 6 to 9 inches long.

For previous introduction see No. 77320.

80191. RHYTIDOCOS AMARA (Jacq.) Baccari (*Cocos amara* Jacq.). Phoenicaceae.

Palm.

80170 to 80193—Continued.

A palm, native to Martinique, with a ringed trunk reaching a height of 100 feet and bearing a crown of large pinnate leaves resembling those of the coconut.

For previous introduction see No. 62103.

80192. STYLOMA PACIFICA (Seem. and Wendl.) O. F. Cook. (*Pritchardia pacifica* Seem. and Wendl.). Phoenicaceae.

Fiji fan palm.

A fan palm, native to the Fiji Islands, with a smooth straight trunk up to 30 feet high and a foot in diameter. The nearly circular leaves, 4 feet long by 3 feet wide, are on petioles 3 to 4 feet long and when young are densely covered with whitish brown tomentum, later becoming smooth and rich green.

80193. (Undetermined.)

From Tobago.

80194 to 80207.

From Leicester, England. Seeds purchased from Rev. J. Farnworth Anderson. Received April 4, 1929.

80194. CYTISUS PRAECOX Wheeler. Fabaceae.

Warminster broom.

An ornamental shrub with silky hairy narrow leaves half an inch long and pale sulphur-yellow flowers produced in great abundance in early spring. It is a hybrid between *Cytisus purgans* and *C. multiflorus*, with the habit of the latter but more densely branching.

For previous introduction see No. 73541.

80195. GENTIANA BRACHYPHYLLA Vill. Gentianaceae.

Gentian.

A high-alpine perennial which forms spreading tufts with small round leaves and brilliant blue flowers of the general type of *Gentiana verna*, appearing in late summer. Native to central Europe.

For previous introduction see No. 79068.

80196. NARCISSUS BULBOCODIUM CITRINUS Baker. Amaryllidaceae.

Petticoat daffodil.

A small bulbous plant with very slender nearly terete leaves, and large pale lemon-yellow flowers, 1 to 2 inches long, with a large flaring, somewhat crenulate corona an inch across and inconspicuous perianth segments. The type is a native of the western Mediterranean countries.

80197. NARCISSUS CYCLAMINEUS Baker. Amaryllidaceae.

A dwarf daffodil with narrow drooping orange-yellow trumpet and entirely reflexed lemon-yellow perianth segments. It is native to Portugal.

For previous introduction see No. 76268.

80198. OMPHALODES VERA Moench. Boraginaceae.

Venusbutton.

A creeping perennial, native to Europe, with small ovate or sub lanceolate leaves, acuminate and callose at the apex, and blue flowers in pairs in a raceme on an erect flower stem. It is related to the forget-me-not.

80199 to 80204. PEDICULARIS spp. Scrophulariaceae.

Woodbetony.

80194 to 80207—Continued.

80199. *PEDICULARIS GRACILIS* Wall.

A herbaceous perennial alpine up to 2 feet high, with six slender opposite or whorled branches, whorled, deeply pinnatifid leaves up to 2 inches long, and rosy purple flowers in spikes or racemes 3 to 6 inches long. It is native to the temperate Himalayas.

80200. *PEDICULARIS INTEGRIFOLIA* Hook. f.

An alpine perennial, native to Sikkim, India, with a stout rootstock and ascending stems 4 to 6 inches high. The leaves are crowded, narrowly linear pubescent, and about 2 inches long. The dark-purple flowers are in oblong capitate spikes.

80201. *PEDICULARIS MEGALANTHA* Don.

A herbaceous perennial alpine, 1 to 2 feet high, with pinnately divided leaves and lax racemes of yellow or rose-purple flowers. It is native to the temperate Himalayas.

80202. *PEDICULARIS ROYLEI* Maxim.

A low caespitose perennial alpine, native to the Himalayas, with a thick root, small pinnately cut leaves, and purplish flowers in a small dense spike.

80203. *PEDICULARIS SCHIZORRHYNCHA* Prain.

A dwarf tufted alpine perennial with erect stems about 2 inches high, long-stemmed oblong-lanceolate pinnately divided leaves, and purple flowers, nearly half an inch long, in small head-like clusters. It is native to the eastern Himalayas.

80204. *PEDICULARIS TRICHOGLOSSA* Hook.

A stout perennial alpine up to 16 inches tall, with sessile linear-obtuse pinnatifid leaves about 2 inches long, and purple flowers in a lax spike. It is native to the Sikkim Himalayas.

80205. *ROSCOEIA HUMEANA* W. W. Smith. Zinziberaceae.

A stout herbaceous perennial about 8 inches high, with sessile oval-lanceolate leaves 4 to 8 inches long and large hooded violet-purple flowers in compact spikes. It is native to southwestern China.

80206. *SAXIFRAGA ALBERTI* Regel and Schmalh. Saxifragaceae. Saxifrage.

A subshrubby perennial densely covered with oblong-ligulate leaves. The white flowers, with numerous red spots, are in small terminal racemes. Native to the mountains of Turkestan.

80207. *TOFIELDIA CALYCVLATA* Wahlenb. Melanthiaceae.

An erect bulbous plant, a foot or less high, with upright, flat linear leaves terminating in a sharp point. These decrease in size up the stem, becoming nearly awnlike at the summit, and subtend the terminal spikelike raceme of yellowish-white flowers. Native to central Europe.

80208 to 80213. *Gossypium* spp. Malvaceae. Cotton.

From Trinidad, British West Indies. Seeds presented by Dr. S. C. Harland, Cotton Research Station. Received April 5, 1929.

80208 to 80213—Continued.

80208. *Gossypium CERNUUM* Todaro.

An erect bush, 3 feet high, cultivated in India. The flowers are pale sulphur-yellow, and the petals are marked with a purple spot.

For previous introduction see No. 73990.

80209. *Gossypium JAMAICENSE* Macf.

Type 35. *Sefed*. A tropical shrub 4 to 5 feet high, with hairy branches, heart-shaped, 3-lobed hairy leaves, pale-yellow flowers, and a 4-valved capsule containing white cotton. It is native to Jamaica.

80210. *Gossypium KIRKII* Masters.

Tanganyika. A bushy, somewhat climbing plant from eastern tropical Africa which sometimes scrambles up between and among trees to a height of 14 feet. The leaves are palmately 5-lobed with a cordate base, the flowers are light yellow, and the oblong conical capsules are about a third of an inch long.

80211. *Gossypium PURPURASCENS* Poir.

Type 12. *Sefed*. A tropical American shrub, native to Trinidad, 6 to 10 feet high, with purplish branches, 3-lobed leaves, and sulphur-yellow flowers.

For previous introduction see No. 67526.

80212. *Gossypium SCHOTTH* Watt.

Cassava. Unselfed. A wild cotton native to Yucatan, Mexico, with leaves almost completely split up into three to five long linear lobes, and medium-sized flowers, yellow tinged with purple. The nearly globose capsules contain a scant amount of reddish fiber.

80213. *Gossypium* sp.

Kidney cotton.

80214. *TURRAEA OBTUSIFOLIA* Hochst. Meliaceae.

From Los Angeles, Calif. Seeds presented by P. D. Barnhart. Received April 10, 1929.

An attractive dwarf evergreen shrub 4 to 6 feet high, bearing between October and March an abundance of white flowers which have strap-shaped petals nearly 2 inches long. Native to South Africa.

For previous introduction see No. 34178.

80215 and 80216.

From Brignoles, France. Seeds presented by R. Salgues, Director, Salgues Museum of Brignoles. Received April 10, 1929.

80215. *ORNITHOGALUM PYRENAICUM* L. Liliaceae. Star-of-Bethlehem.

A bulbous plant, about 2 feet high, with narrow onionlike leaves and flowers on a simple leafless scape. It is native to Europe.

For previous introduction see No. 79177.

80216. *Vicia NARBONENSIS* L. Fabaceae. Vetch.

An annual legume, native to southern Europe, with angled stems 2 to 4 feet tall, compound leaves of two to three pairs of fleshy elliptic leaflets 1 to 2 inches long, and racemes of blue to purple flowers.

80217 to 80245. *AVENA* spp. Poaceae.
Oats.

From New South Wales, Australia. Seeds presented by H. Wenholz, Director of Plant Breeding of the Department of Agriculture, Sydney. Received April 20, 1929.

80217 to 80219. *AVENA* *BYZANTINA* Koch.

80217. *Algerian*. 1928 crop from Glen Innes.

80218. *Algerian*. 1929 crop from Glen Innes.

80219. *Burt*. 1928 crop from Glen Innes.

80220. *AVENA* *SATIVA* L.

Kherson. 1928 crop from Glen Innes.

80221 to 80245. *AVENA* spp.

1928 crop from Glen Innes.

80221. *AVENA* sp.

No. 749.

80222. *AVENA* sp.

Amery.

80223. *AVENA* sp.

Asquith.

80224. *AVENA* sp.

Baldwin.

80225. *AVENA* sp.

Baxter.

80226. *AVENA* sp.

Belar.

80227. *AVENA* sp.

Beta.

80228. *AVENA* sp.

Birdwood.

80229. *AVENA* sp.

Bond.

80230. *AVENA* sp.

Boppy.

80231. *AVENA* sp.

Boree.

80232. *AVENA* sp.

Brundah.

80233. *AVENA* sp.

Buddah.

80234. *AVENA* sp.

Budgery.

80235. *AVENA* sp.

Byng.

80236. *AVENA* sp.

Guyra.

80237. *AVENA* sp.

Kanata.

80238. *AVENA* sp.

Kandas.

80239. *AVENA* sp.

Kurri.

80240. *AVENA* sp.

Reid.

80217 to 80245—Continued.

80241. *AVENA* sp.

Rucklands.

80242. *AVENA* sp.

Sunrise.

80243. *AVENA* sp.

Westdale.

80244. *AVENA* sp.

Weston.

80245. *AVENA* sp.

Woodford.

80246 to 80248. *TIGRIDIA* *PAVONIA* (L. f.) Ker. Iridaceae.

Common tigerflower.

From Sassenheim, Netherlands. Bulbs purchased from Van Zonneveld Bros. & Philippi. Received April 24, 1929.

80246. Variety *canariensis*. Pale-yellow flowers with red-spotted centers.

80247. Variety *lutea immaculata*. Pure-yellow spotless flowers.

80248. Variety *rosea*. Rose-colored flowers with yellow-variegated centers.

80249. *CROTON* sp. Euphorbiaceae.

From Njala, Sierra Leone, Africa. Seeds presented by the Provincial Superintendent of Agriculture, of the Njala Experiment Farm. Received April 25, 1929.

A euphorbiaceous tree growing on the river bank at Njala.

80250. *NICOTIANA* *TABACUM* L. Solanaceae. Common tobacco.

From Mexico. Seeds obtained through Leonard G. Dawson, American Consul. Received April 25, 1929.

A special variety said to be from the best tobacco grown in the vicinity of San Andres Tuxtla, about 80 miles southwest of Vera Cruz.

80251. *ERYTHRINA* *ACANTHOCARPA* E. Mey. Fabaceae.

From Pretoria, Union of South Africa. Seeds presented by E. Percy Phillips, Chief of the Division of Botany, Horticulture, and Entomology of the Department of Agriculture. Received April 26, 1929.

A rigid wide-branched shrub, native to South Africa, 4 to 6 feet high, armed with sharp awl-shaped reflexed prickles. The leaves are made up of three elliptical leaflets one-half to 1 inch long and 1 to 2 inches broad; the scarlet flowers, 1 to 2 inches long, are in lateral and terminal racemes and are followed by twisted prickly pods.

80252. *GRAMMATOPHYLLUM* *SPECIOSUM* Blume. Orchidaceae. Orchid.

From Medan, Sumatra. Seeds presented by Dr. J. A. Lörzing. Received April 27, 1929.

A giant orchid with stout stems 6 to 10 feet long, strap-shaped leaves a foot or two in length, and flower clusters 6 feet long. The numerous flowers are 6 inches in diameter and are yellow blotched with deep purple. Native to the East Indies.

For previous introduction see No. 67181.

80253 to 80260. CITRUS NOBILIS UNSHIU
Swingle. Rutaceae. Satsuma orange.

From Okitsu, Japan. Plants presented by Dr. K. Nagai, Imperial Experiment Station. Received April 27, 1929.

80253. *Ikeda (Unshio) wasi*.

80254. *Ishihawa wasi*.

80255. *Miyakawa wasi*.

80256. *Sato Dai wasi*.

80257. *Takahashi wasi*.

80258. *Tsuda wasi*.

80259. *Yamamota wasi*.

80260. *Yanagisawa wasi*.

80261 to 80266. PRUNUS spp. Amygdalaceae.

From Saonara, Padua, Italy. Trees purchased from Fratelli Sgaravatti. Received April 24, 1929.

80261 and 80262. *PRUNUS AVIUM L.*
Sweet cherry.

80261. *Napoleone (Imbrian)*. Large brilliant-red fruits, produced during June and July, with very delicious white flesh.

80262. *Regina del mercato*. Large, heart-shaped, carmine-red fruits produced during June. The flesh is juicy and very sweet.

80263 to 80266. *PRUNUS CERASUS MARASCA* (Host) C. Schneid. Maraschino cherry.

80263. *Del Nord (Marasca tedesca)*. Medium-sized, juicy, somewhat acid fruits which change from red to purple. They are produced during June.

80264. *Imperiale*. Large, intense red fruits produced during June and July. The flesh is tender and sweet to subacid.

80265. *Marasca di Ostheim*. Medium-sized, pale-red fruits produced during June.

80266. *Marasca olandese*. Large black fruits.

80267. KOKIA DRYNARIOIDES (Seem.)
Lewton. Malvaceae.

From Honolulu, Hawaii. Seeds presented by H. L. Lyon, in charge of the Department of Botany and Forestry of the Experiment Station of the Hawaii Sugar Planters' Association. Received April 30, 1929.

These seeds were gathered from the only known living tree, which is located on the island of Molokai. An ornamental tree with long-stemmed, heart-shaped leaves and red, silky flowers, it is native to the Hawaiian Islands, but now has become practically extinct because of the ravages of cattle, sheep, and goats that eat the bark and leaves.

For previous introduction see No. 58574.

80268 to 80292.

From Ottawa, Canada. Seeds presented by J. Adams, Botanist, Central Experimental Farm. Received April 6, 1929.

80268. *ACER MYABEI Maxim.* Aceraceae.
Maple.

No. 129. A deciduous tree, native to Japan, 30 to 40 feet high, with a trunk

80268 to 80292—Continued.

1½ feet in diameter, deeply 3-lobed leaves, downy yellow flowers in corymbs 2 to 3 inches long, and keys up to an inch long.

For previous introduction see No. 75665.

80269. *BETULA TURKESTANICA FETISOWII* Hort. Betulaceae. Birch.

No. 191. A hardy birch from Central Asia.

80270. *CARAGANA PYGMAEA (L.) DC.* Fabaceae. Dwarf pea-tree.

No. 717. A shrub, native to Siberia, prostrate or up to 3 feet high, with spreading branches, spiny stipules, compound leaves of four linear-lanceolate spine-tipped leaflets, and solitary yellow flowers an inch long.

For previous introduction see No. 64768.

80271 to 80286. *GENTIANA spp.* Gentianaceae. Gentian.

80271. *GENTIANA ASCLEPIADEA L.* Milkweed gentian.

No. 621. A comparatively robust sub-alpine species forming clumps of vigorous stems up to 3 feet high with opposite oval-pointed leaves. In late summer it produces, from the upper axils, almost sessile trumpet-shaped sapphire-blue flowers which weigh down the arching stalks. There is some variation in color from seed, which germinates freely and produces flowering plants in about three years. The plant is said to be indifferent as to whether the soil is alkaline or not.

For previous introduction see No. 79160.

80272. *GENTIANA BAICALIENSIS* Hort.

No. 622.

80273. *GENTIANA BURSERI* Lapeyr.

No. 623. A low alpine perennial native to the Pyrenees, with an unbranched stem less than a foot high, oval-elliptic leaves, and yellowish flowers with the corollas mostly 6-cut.

For previous introduction see No. 79230.

80274. *GENTIANA FETISOWII* Regel and Winkler.

No. 628. A small-flowered rather coarse species blooming in late summer. It is native to Siberia.

For previous introduction see No. 79024.

80275. *GENTIANA FREYNIANA* Borum.

No. 629. A herbaceous perennial 6 inches high, native to Asia Minor, related to *Gentiana septemfida*, with lanceolate leaves and headlike cymes of dark-blue flowers which are borne during late summer.

For previous introduction see No. 79075.

80276. *GENTIANA GROMBEZEWSKII* Hort.

No. 630. A place of publication or description for this name has not been found.

For previous introduction see No. 79027.

80268 to 80292—Continued.

80277. *GENTIANA KURROO* Royle.

No. 631. A gentian, native to the Himalayas, forming dense tufts from which rise lax stems up to 7 inches high with narrow lanceolate leaves and bell-shaped blue flowers spotted white inside. It is said to appreciate a sunny location, with ample moisture and perfect drainage, especially in spring and autumn.

For previous introduction see No. 79078.

80278. *GENTIANA MACROPHYLLA* Pall.

No. 632. A herbaceous perennial, native to northern Europe and Asia, with an erect or ascending stem, narrow spreading leaves, and clustered heads of dark-blue flowers.

For previous introduction see No. 79080.

80279. *GENTIANA OLIVIERI* Griseb.

No. 633. A herbaceous perennial, native to mountain pastures in the Himalayas, about 9 inches high, with dark-blue flowers in umbellike cymes.

For previous introduction see No. 79258.

80280. *GENTIANA PANNONICA* Scop.

No. 634. A tall stout perennial, native to Europe, with broadly elliptical to narrowly ovate leaves, and flowers which are purple above.

For previous introduction see No. 79259.

80281. *GENTIANA PHLOGIFOLIA* Schott and Kotschy.

No. 635. A creeping alpine species, native to central Europe, about 10 inches high, with clustered dark-blue flowers which are borne in early summer.

For previous introduction see No. 79083.

80282. *GENTIANA PRZEWALSKII* Maxim.

No. 636. A lax-growing free-flowering gentian native to western China, rather like *Gentiana kurroo*, with linear leaves about 6 inches long and flowers with nearly white tubes and cobalt-blue petals.

For previous introduction see No. 79086.

80283. *GENTIANA SAPONARIA* L.

No. 637. A hardy herbaceous perennial not exceeding 2 feet in height, with an ascending stem, narrow pointed opposite leaves, and light-blue flowers. It is native to eastern North America.

For previous introduction see No. 78935.

80284. *GENTIANA SEPTEMFIDA* Pall.

No. 639. A gentian, native to Asia, which resembles *Gentiana asclepiadea*, requiring similar conditions. It makes spreading clumps up to 12 inches high with opposite ovate leaves and heads of wide-mouthed trumpet-shaped blue flowers in late summer. It varies considerably in habit and flower color, but all forms do well in peaty loam with ample but not stagnant water supply.

For previous introduction see No. 79091.

80268 to 80292—Continued.

80285. *GENTIANA TIBETICA* King.
Himalayan gentian.

No. 642. An erect plant 1½ feet high, with oblong-ovate leaves 5 to 7 inches long and small dull yellowish white axillary flowers an inch long. It is native to Tibet.

For previous introduction see No. 79028.

80286. *GENTIANA WALUJEWI* Regel and Schmalh.

No. 643. A dwarf gentian, native to Sinkiang, China, bearing white flowers with blue spots.

For previous introduction see No. 79095.

80287. *LIGUSTRUM* sp. Oleaceae. Privet.

No. 801. The privets are deciduous or evergreen shrubs with opposite entire leaves and terminal panicles of small white flowers.

80288 to 80291. *ROSA* spp. Rosaceae.80288. *ROSA RUBRIFOLIA* Vill.
Redleaf rose.

No. 1231. Variety *livida*. A shrub 6 feet high, native to southern Europe, with five to seven oblong leaflets which are simply toothed. The bright-red flowers are borne in small clusters, and the small globose fruits are red and pulpy. The whole plant is glaucous and tinged with bluish red.

For previous introduction see No. 54228.

80289. *ROSA SPINOSISSIMA* L.
Scotch rose.

No. 1234. A low shrub usually 3 to 4 feet high, with spreading or recurving branches and densely prickly branchlets. It is native to Europe. The compound leaves are made up of 5 to 11 nearly orbicular serrate leaflets about an inch long, and the pink, white, or yellow flowers 2 inches across are solitary but borne on numerous short branchlets along the stems.

For previous introduction see No. 54235.

80290. *ROSA SPINOSISSIMA ALTAICA* (Willd.) Rehd.
Altai rose.

No. 1235. A more vigorous and less bristly form of the Scotch rose with large white flowers.

For previous introduction see No. 54236.

80291. *ROSA SPINOSISSIMA HISPIDA* (Sims) Koehne. Bristly Scotch rose.

No. 1236. An upright bristly form of the Scotch rose usually 6 or more feet high, with large sulphur-yellow flowers.

For previous introduction see No. 54237.

80292. *SYRINGA* sp. Oleaceae. Lilac.

No. 812. The lilacs are ornamental shrubs or small trees with opposite, usually entire leaves and large showy panicles of usually fragrant salver-shaped flowers.

80293. TRIFOLIUM RESUPINATUM L. Fabaceae. Strawberry clover.

From Teheran, Persia. Seeds obtained from Jalil K. Hashinzade, Ministry of Public Works, Department of Roads, through Augustin Ferrin, American Consul, Teheran. Received April 30, 1929.

Shaftal clover.

For previous introduction see No. 67863.

80294 to 80303.

From Haifa, Palestine. Cuttings presented by Amram Khazanoff, The Palestine Jewish Colonization Association. Received April 15, 1929.

80294 to 80299. FICUS CARICA L. Moraceae. Common fig.

80294. *Baidi.*

80295. *Kharoobi.*

80296. *Khedari.*

80297. *Khurtmani.*

80298. *Mozi.*

80299. *Sultani.*

80300 to 80303. VITIS VINIFERA L. Vitaceae. European grape.

80300. *Baidi.*

80301. *Helwani.*

80302. *Jemdani.*

80303. *Khedari.*

80304 to 80307. RHODODENDRON spp. Ericaceae.

From Leicester, England. Seeds purchased from Rev. J. Farnworth Anderson. Received April 13, 1929.

80304. RHODODENDRON ALBRECHTII Maxim. Azalea.

A deciduous shrub, native to Japan, 3 to 5 feet high, with purple-brown branchlets, obovate leaves 2 to 6 inches long in clusters of about five at the end of the twigs, and clusters of three to five rotate-campanulate magenta flowers about 2 inches across. It is a handsome shrub resembling *Rhododendron slippenbachii*, but less showy; the leaves turn yellow in the autumn.

80305. RHODODENDRON DECORUM Franch.

An evergreen shrub, native to western China, with oblong leaves 3 to 5 inches long, glaucous beneath, and racemose clusters of green-spotted white or pink flowers 2 inches across.

For previous introduction see No. 79041.

80306. RHODODENDRON MARIESII Hemsl. and Wils. Azalea.

A deciduous shrub up to 8 feet high, native to central China, and related to *Rhododendron rhombicum*. The ovate leaves, 2 to 3 inches long, are silky pubescent on the midrib beneath, and the one to three rose-pink broadly campanulate flowers are 1 to 2 inches across.

80307. RHODODENDRON TSCHONOSKII Maxim. Azalea.

A forest shrub, native to Japan, with flaky bark, elliptic leaves one-third of an inch long, and heads of one to four small white flowers.

For previous introduction see No. 79043.

80308 to 80339.

From Woodbridge, Suffolk, England. Plants purchased from R. C. Notcutt. Received April 11, 1929.

80308 to 80327. CYTISUS spp. Fabaceae. Broom.**80308. CYTISUS ALBUS Hacquet.**

Pale broom.

An upright shrub about 3 feet high, with villous branches, leaves of three oblong-ovate leaflets less than an inch long, and clusters of three to six yellowish white flowers. It is native to southeastern Europe.

80309. CYTISUS AUSTRIACUS L.

A dwarf shrub about 3 feet high, native to southeastern Europe, with trifoliolate silky pubescent leaves and headlike clusters of bright-yellow flowers.

For previous introduction see No. 76241.

80310 and 80311. CYTISUS BIFLORUS L'Her.

80310. A leguminous shrub 3 feet high, with slender branches, leaflets with silky lower surfaces, and yellow flowers, single or in pairs, which are borne during the spring [May].

For previous introduction see No. 73536.

80311. Variety *versicolor prostrata*.

A shrub of strong spreading growth. The flowers are golden yellow in the bud, opening to fawn.

80312. CYTISUS DALLIMOREI Rolfe.

This slender shrub, which is a garden hybrid, is of moderate growth, with trifoliolate leaves and axillary and terminal clusters of reddish purple velvety flowers.

For previous introduction see No. 76343.

80313. CYTISUS DECUMBENS (Willd.) Spach.

A prostrate shrub, native to southern Europe, less than a foot high, with 5-angled branchlets, simple oblong-ovate sessile leaves, and axillary clusters of one to three small bright-yellow flowers.

80314. CYTISUS MONSPESSULANUS L. (*C. candicans* DC.).

A strong, erect-growing shrub which is evergreen in regions where the winters are mild. It becomes 10 feet or less high, with grooved branches, trifoliolate leaves having obovate leaflets less than an inch long, and fragrant bright-yellow flowers in 3-flowered to 9-flowered headlike racemes on leafy branches. It is native to the Canary Islands.

For previous introduction see No. 73539.

80315. CYTISUS MULTIFLORUS INCARNATUS Sweet.

Variety *Toome*. A slightly flushed form of the white Spanish broom which is a shrub up to 10 feet high, native to Spain and northern Africa, with upright slender branchlets bearing trifoliolate leaves below and simple ones above. The flowers, in axillary clusters of one to three, are produced very profusely.

80308 to 80339—Continued.

80316. CYTISUS NIGRICANS ELONGATUS
Borkh. (*C. nigricans carlieri* Hort.).

Variety *Carlieri*. A deciduous shrub, native to Europe, 2 to 4 feet high, with erect pubescent branches, long-stemmed leaves composed of oval pubescent leaflets up to an inch long, and long slender racemes, 3 to 8 inches long, of rich-yellow flowers. This variety differs from the typical species in that it blooms a second time in the autumn at the top of the elongated fruiting racemes.

For previous introduction see No. 43838.

80317. CYTISUS PRAECOX ALBUS T. Smith. Warminster broom.

A smaller and more pendulous white-flowered form of *Cytisus praecox* which is a hybrid between *C. purgans* and *C. multiflorus*. The simple leaves are oblanceolate to linear spatulate and are silky pubescent.

80318. CYTISUS PURGANS (L.) Spach.
Province broom.

A dwarf bushy deciduous shrub about 3 feet high, native to the Mediterranean region, often nearly leafless, with simple oblanceolate leaves which soon fall and fragrant deep golden-yellow flowers half an inch long produced singly or in pairs from the year-old wood.

For previous introduction see No. 73542.

80319. CYTISUS ROCHELII Wierzb.

A shrub, native to Hungary, 3 to 4 feet high, with villous terete branchlets, trifoliolate leaves of oblong-lanceolate leaflets an inch long, and terminal heads of pale-yellow flowers with brownish spots.

80320 to 80324. CYTISUS SCOPARIUS
(L.) Link. Scotch broom.

80320. Donard seedling. A new variety of vigorous growth, bearing reddish-crimson flowers suffused with grayish white and yellow.

80321. Rosy Moonlight. A vigorous grower bearing cream-colored flowers tinged with rose.

80322. Dorothy Walpole. A hardy grower bearing an abundance of flowers with rich velvety crimson wings and rose standards.

80323. Fulgens. A variety bearing beautiful flowers with deep orange standards and rich crimson keels.

80324. Lord Lambourne. A variety in which the flowers have wings of vivid scarlet-crimson color and a standard of soft cream color tinted with rose on the reverse.

80325. CYTISUS sp.

Cornish Cream. A new and charming variety raised by P. D. Williams, Lanarth, St. Keverne, Cornwall. It produces an abundance of good-sized flowers with cream-colored standards and pure yellow on the keel, which gives a distinct and attractive appearance to the blooms. A vigorous grower, especially effective for mass effects.

80326. CYTISUS sp.

Moonlight. Flowers are sulphur yellow.

80308 to 80339—Continued.

80327. CYTISUS sp.

Osborni. A variety of recent introduction, raised at Kew. It is later flowering than *Cytisus praecox*, and although similar in growth, is perhaps of rather a stiffer habit, while there is no trace of the characteristic scent of that variety. The flowers are borne abundantly, and they are golden yellow in the bud, opening to a delightful pale yellow.

80328 to 80339. ERICA spp. Ericaceae.
Heath.

80328. ERICA ARBOREA ALPINA Dieck.

An evergreen bushy heath, native to the mountainous regions of Cuenca, Spain, which has proved hardy at the Royal Botanic Gardens, Kew, England. The dull-white flowers are borne in stiff pyramidal clusters, but the chief beauty of the plant lies in the rich, cheerful green color of the foliage which, in England, lasts throughout the winter.

For previous introduction see No. 62023.

80329 to 80333. ERICA CARNEA L.
Spring heath.

80329. Pink Beauty.

80330. C. J. Backhouse. Flowers bluish white.

80331. Praecox Rubra. A variety with rich rose carmine flowers.

80332. Prince of Wales. The flowers are soft pink.

80333. Vivelli. A red-flowered variety.

80334. ERICA CILIARIS L.
Fringed heath.

Variety *Watsoni*.

80335. ERICA CINEREA L.
Twisted heath.

Variety *atropurpurea*. Flowers deep purple.

80336. ERICA MACKAILI Hook. (*E. mackaiana* Bab.).

Variety *plena*. A double-flowered form of this hybrid between *Erica tetralix* and *E. ciliaris*, which has ovate-oblong leaves in whorls of four and umbels of rosy flowers.

80337. ERICA MEDITERRANEA L.
Biscay heath.

Variety *Brightness*. Flowers bright pink.

80338. ERICA TETRALIX L.
Crossleaf heath.

Variety *rubra*. Attractive carmine flowers.

80339. ERICA WILLIAMSII Druce.

A hybrid between *Erica tetralix* and *E. vagans*, with puberulous branchlets, sparingly ciliate leaves, and rosy salmon flowers borne during the late summer.

80340 to 80348. TRITICUM spp. Poaceae.

From Perth, Western Australia. Seeds presented by G. L. Sultan, Director of the Department of Agriculture. Received May 2, 1929.

80340 to 80348—Continued.

80340 to 80347. *TRITICUM AESTIVUM* L.
(*T. vulgare* Vill.) Common wheat.

80340. C 74. *D. A. C. A179* × *Florence*.

80341. C 80. *Dindiloa* × *Labawa*.

80342. C 86. *Florence* × *Velvet Don*.

80343. M 11. *Comeback* × *Florence*.

80344. M 28. *Dindiloa* × *Labawa*.

80345. M 29. *Dindiloa* × *Labawa*.

80346. M 30. *Dindiloa* × *Labawa*.

80347. P 1511. *Genoa*.

80348. *TRITICUM DURUM* Desf.
Durum wheat.

P 1211. *Kubanka*.

80349. *SACCHARUM SPONTANEUM* L.
Poaceae. Grass.

From Coimbatore, India. Cuttings presented by the Imperial Sugar Cane Breeding Station, through E. W. Brandes, Bureau of Plant Industry. Received April 26, 1929.

A perennial tropical grass closely related to the sugarcane. It is sometimes cultivated as a hedge plant.

For previous introduction see No. 77782.

80350 to 80355.

From Cape Town, Union of South Africa. Bulbs purchased from W. S. Duke & Co. Received February and March, 1926. Numbered in April 1929.

80350. *LACHENALIA RUBIDA* Jacq. Liliaceae.
Cape-cowslip.

A herbaceous perennial, native to South Africa, with a globose bulb from which arise usually two lanceolate, spotted leaves 6 inches long and a naked stalk 9 inches high, bearing a close raceme of small cylindrical, mostly drooping flowers. The outer segments are bright red tipped with green, and the inner segments are longer and yellow.

80351. *LACHENALIA TRICOLOR AUREA* (Lindl.) Hook. f. Liliaceae.
Cape-cowslip.

A herbaceous perennial, native to South Africa, closely resembling *Lachenalia rubida*, but the flowers are bright orange-yellow.

80352 to 80354. *ORNITHOGALUM* spp. Liliaceae.

80352. *ORNITHOGALUM ARABICUM* L.
Arabian star-of-Bethlehem.

A herbaceous perennial, native to the Mediterranean region, with a thick, ovoid bulb, five to eight glaucous green leaves 12 to 18 inches long, and a scape 1 to 2 feet high, bearing a 6-flowered to 12-flowered raceme of fragrant white flowers. The pistil is black and adds to the attractiveness of the flowers. This species is very popular for pot culture.

80353. *ORNITHOGALUM SPECIOSUM* Baker.
Star-of-Bethlehem.

A herbaceous perennial, native to South Africa, with a globose bulb an inch in diameter, four short thick linear leaves, and a scape a foot high which bears three to five white flowers having an orange-red spot at the tip.

80350 to 80355—Continued.

80354. *ORNITHOGALUM THYRSOIDES AU-REUM* (Curtis) Baker.
Chincherichee.

An ornamental, native to South Africa, with a globose bulb about 2 inches thick and five or six very narrow leaves 6 inches to a foot long. The golden-yellow flowers, sometimes an inch long under cultivation, are borne in rather dense racemes on a scape about a foot high. In a dried condition these make excellent "everlasting" flowers.

For previous introduction see No. 66891.

80355. *VALLOTA SPECIOSA* (L. f.) Dur. and Schinz. (*V. purpurea* Herbert). Amaryllidaceae.
Scarboro-lily.

A herbaceous perennial with an ovoid bulb, 6 to 18 lanceolate leaves 1 to 2 feet long, and a hollow stem 2 to 3 feet high, bearing an umbel of six to nine scarlet funnel-shaped flowers. Native to southern Africa.

80356. *HELENIUM AUTUMNALE* L. Asteraceae.
Sneezeweed.

From Niederwalluf am Rhein, Germany. Plants purchased from Goos & Koene-mann. Received April 24, 1929.

Wyndley. A plant 2½ feet high, bearing bronzy yellow flowers.

80357 to 80381.

From China. Seeds and rhizomes collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1929.

80357. *ABIES* sp. Pinaceae. Fir.

No. 17361. November, 1928. A lovely and stately tree, 60 to 80 feet high, growing in the forests of Tokesher, northwestern Yunnan, at an altitude of 12,000 feet. The needles are silvery beneath, and the very large cones are deep purplish black.

80358. *ACONITUM* sp. Ranunculaceae.
Monkshood.

No. 17376-A. November, 1928. A poisonous plant growing in the alpine meadows of the Likang Snow Range, Yunnan, at altitudes between 11,000 and 12,000 feet. It is 3 to 4 feet high and bears rich blue flowers.

80359. *ANEMONE* sp. Ranunculaceae.

No. 17325. October, 1928. A plant half a foot high, growing in the glacier moraine of Sabaloko, at the foot of Mount Satseto, Likang Snow Range, Yunnan, at an altitude of 12,000 feet. The leaves are a rich glossy green on the under surface, and the large white flowers have a purplish tinge beneath.

80360. *BAUHINIA* sp. Caesalpinaceae.

No. 17377. November, 1928. A shrub or small tree, which prefers dry sunny situations, growing on the islands in Lake Yunghing, northwestern Yunnan, at an altitude of 9,600 feet. It is 15 feet high and bears small white flowers.

80361. *COTONEASTER* sp. Malaceae.

No. 17365. December, 1928. A shrub growing in the Litang River gorge at Kere, Mull, southwestern Szechwan, at an altitude of 9,500 feet. It is 6 to 10

80357 to 80381—Continued.

feet high, with small ovoid leaves, and is very ornamental with its mass of brilliant red berries.

80362. *DELPHINIUM* sp. Ranunculaceae. Larkspur.

No. 17332. October, 1928. A larkspur growing on glacier gravel and gravelly moraines at Sabaloko, foot of Mount Satseto, Likiang Snow Range, Yunnan, at an altitude of 12,000 feet. It is a beautiful species with rich glossy green leaves forming globose rosettes and large rich blue silky flowers an inch in diameter.

80363. *ILEX* sp. Aquifoliaceae. Holly.

No. 17368. January, 1929. A beautiful shrub growing in the spruce forests on the southern slope of Mount Gibbah, Muli, southwestern Szechwan, at an altitude of 11,500 feet. It is 6 to 10 feet high, with hollylike evergreen leaves and brilliant red berries.

80364. *INCARVILLEA GRANDIFLORA* Bur. and Franch. Bignoniaceae.

No. 17371. December, 1928. A plant growing on the alpine meadows of She-lan, between Kulu and Muli, southwestern Szechwan, at an altitude of 13,000 feet. It is 3 feet high, and bears purplish red flowers.

80365 to 80367. *IRIS* spp. Iridaceae.80365. *IRIS* sp.

No. 17370. December, 1928. A purple-flowered species growing in forest clearings and alpine meadows of Kulu, southwestern Szechwan, at an altitude of 13,000 feet.

80366. *IRIS* sp.

No. 17373. November, 1928. A plant growing in the alpine meadows of Mount Yowubo, Yungning Territory, Yunnan, at an altitude of 12,500 feet. It is 1 to 2 feet high, and bears purple or yellow flowers.

80367. *IRIS* sp.

No. 17375. November, 1928. A medicinal plant, used for colds and stomach trouble, called *Chumbu* by the Hlihin people in Szechwan. It grows wild in grassy swamps and marshy meadows of the Chienso Tussu Territory, southwestern Szechwan.

80368. *MALUS* sp. Malaceae. Apple.

No. 17360. November, 1928. A wide-spreading tree growing in the forests and clearings of Tokesher, northwestern Yunnan, at an altitude of 10,000 feet. It is 30 to 40 feet tall, with leaves white beneath and small, yellow and red fruits half an inch in diameter.

80369. *MECONOPSIS INTEGRIFOLIA* (Maxim.) Franch. Papaveraceae. Yellow Chinese-poppy.

No. 16020. November, 1928. A plant, 1 to 2 feet high, bearing rich golden-yellow flowers. It is found in the alpine meadows of Mount Gibbah, Muli, southwestern Szechwan, at an altitude of 13,000 feet.

For previous introduction see No. 58374.

80357 to 80381—Continued.

80370. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

No. 17374. November, 1928. This red bean is cultivated by the Hsifau tribes of southwestern Szechwan and by the Hlihin tribes of northwestern Yunnan. It is a delicious bean when well cooked and reminds one very much of the Mexican bean. It is cultivated at Gawua, Yuli Territory, at an altitude of 10,000 feet.

80371. *STRANVAESIA* sp. Malaceae.

No. 17363. November, 1928. A lovely tree, 15 to 20 feet high, growing in the forests of Peshui, Likiang Snow Range, Yunnan, at an altitude of 10,500 feet. The autumnal leaves are a brilliant red on the upper whorl and a deep glossy green on the lower whorl. The gorgeous red berries are in large dense corymbs and are very ornamental.

80372. *PRIMULA FORRESTII* Balf. f. Primulaceae. Primrose.

No. 17376-B. October, 1928. A lovely perennial plant with a woody rootstock, which reaches an age of 100 years or more. It grows in rocky limestone soil on sunny slopes of the Likiang Snow Range, Yunnan, at an altitude of 11,000 feet. The flowers are a deep golden yellow, and the leaves, when crushed, have the odor of fresh apples.

For previous introduction see No. 59710.

80373. *PRUNUS* sp. Amygdalaceae. Cherry.

No. 16794. August, 1928. A shrub, 10 feet high, branching from the base. It grows on dry slopes below the monastery at Muli in the Litang River Valley, Szechwan, at an altitude of 9,000 feet. The leaves are grayish tomentose, and the flowers are large, white, and ornamental.

80374 to 80381. *RHODODENDRON* spp. Ericaceae.80374. *RHODODENDRON CORIACEUM* Franch.

No. 17354. November, 1928. A shrub, 3 to 4 feet high, growing on the alpine slopes of the rocky regions of Mount Lapo, Yunnan, at an altitude of 12,500 feet.

80375. *RHODODENDRON HELIOLEPIS* Franch.

No. 17357. November, 1928. A tree, 15 to 18 feet high, growing in the forests of spruce and hemlock at Gokhuko, northwestern Yunnan. The leaves are brown beneath, and the flowers are a rich purple.

For previous introduction see No. 59715.

80376. *RHODODENDRON* sp.

No. 16164. December, 1928. A wide-spreading tree, 15 to 20 feet high, growing in the spruce and hemlock forests of Djago, between Muli and Kulu, Szechwan, at altitudes between 11,000 and 11,500 feet. The leaves, chocolate-colored beneath, are a foot broad and 2 feet or more long, and the red flowers borne during February are in large corymbs.

80357 to 80381—Continued.

80377. RHODODENDRON sp.

No. 17352. November, 1928. A very attractive shrub, 2 feet high, growing in northwestern Yunnan on well-drained dry gravelly banks in pine forests at an altitude of 10,000 feet. It has small linear leaves and small tubular white to rich pink flowers borne in globose heads.

80378. RHODODENDRON sp.

No. 17356. November, 1928. A shrub or small tree 12 to 15 feet high, growing in spruce forests and on the edge of the alpine meadows of Gokhuko, northwestern Yunnan, at an altitude of 12,000 feet. The flowers are white to pink with purple spots.

80379. RHODODENDRON sp.

No. 17358. November, 1928. A shrub or small tree, 12 to 15 feet high, growing in spruce forests and on the edge of the alpine meadows of Gokhuko, northwestern Yunnan. The small ovate leaves are acute at both ends and pale beneath, and the flowers are yellow.

80380. RHODODENDRON sp.

No. 17359. November, 1928. A shrub, 2 to 3 feet high, growing in the swampy alpine meadows of Gokhuko, northwestern Yunnan, at an altitude of 12,000 feet. The leaves are very small, and the flowers are blue with a purplish tinge.

80381. RHODODENDRON sp.

No. 17366. December, 1928. A shrub or small tree, 10 to 15 feet high, growing in the fir forests of Kulu, eastern Muli Territory, Szechwan, at an altitude of 13,000 feet. It is very ornamental and is said to have red flowers.

80382 to 80387. CANNA EDULIS Ker.
Cannaceae. Edible canna.

From Honolulu, Hawaii. Bulbs presented by J. M. Westgate, Director, Hawaii Agricultural Experiment Station. Received May 15, 1929.

80382. 1749.2. Seedling.

80383. 1749.5. Seedling.

80384. 1749.6. Seedling.

80385. 1749.7. Seedling.

80386. 1039.

80387. 2078. Java canna.

80388. CASTANEA MOLLISSIMA Blume.
Fagaceae. Hairy chestnut.

From Yamaguchi Ken, Honshu, Japan. Seeds collected by R. K. Beattie, Bureau of Plant Industry. Received May 15, 1929.

No. 849. A.

80389 to 80392. ORYZA SATIVA L. Poa-
ceae. Rice.

From Hooghly District, Bengal, India. Seeds obtained through R. Y. Jarvis, American Consul, Calcutta, India. Received May 15, 1929.

80389. Balam.

80390. Dudkalma.

80389 to 80392—Continued.

80391. Jatakalma.

80392. Lalkalma.

80393 to 80411.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received April 5, 1929.

80393. BERBERIS SANGUINEA Franch. Ber-
beridaceae. Barberry.

An evergreen shrub up to 6 feet high, with slender 3-parted spines, narrow-oblong spiny serrate leaves up to 4 inches long, golden-yellow flowers with red sepals, and bluish black fruits. It is native to western China.

80394 to 80398. COTONEASTER spp. Mala-
ceae.80394. COTONEASTER HARROVIANA Wil-
son.

An evergreen shrub, native to Yunnan, China, about 6 feet high, of a loose spreading habit, with shining dark-green silky tipped leaves, dense corymbs of white flowers, and red fruits.

For previous introduction see No. 72824.

80395. COTONEASTER sp.

Farrer No. 404.

80396. COTONEASTER sp.

M. V. No. 4524.

80397. COTONEASTER sp.

M. V. No. 4694.

80398. COTONEASTER sp.

Forrest No. 8119.

80399 to 80401. DEUTZIA spp. Hydran-
geaceae.80399. DEUTZIA SCHNEIDERIANA LAXI-
FLORA Rehder.

A handsome shrub, 6 feet high, with oblong-ovate leaves and white flowers borne abundantly in broad loose panicles. It is native to central China.

For previous introduction see No. 76185.

80400. DEUTZIA sp.

M. V. No. 4277. A handsome shrub closely related to *D. compacta* Craib., introduced from China by Maurice de Vilmorin. The pale-rose, semidouble flowers, larger than those of *D. compacta*, are in compact corymblike panicles.

80401. DEUTZIA sp.

M. V. No. 7264.

80402. EUONYMUS VERRUCOSUS Scop.
Celastraceae.

An erect shrub, about 6 feet high, with oval-lanceolate, crenately serrulate, acuminate leaves 1 to 2½ inches long, yellowish red, deeply 4-lobed capsules, and black seeds partly exposed in the capsule. It is native to southeastern Europe and western Asia.

80403. ILEX PERNYI Franch. Aquifolia-
ceae. Holly.

A dense-growing evergreen holly of very dwarf compact habit, with small

80393 to 80411—Continued.

dark-green, spiny leaves squarish at the base and red berries. It is probably allied to *Ilex cornuta*, and was first discovered by Père Paul Perny during his travels in western China between 1850 and 1860.

For previous introduction see No. 67032.

80404. IRIS CLARKEI Baker. Iridaceae.
Clarke iris.

For previous introduction and description see No. 80084.

80405. KITAIBELIA LINDEMUTHI Hort.
Malvaceae.

Obtained by M. Lindemuth, gardener at the Botanical Garden, Berlin, by grafting *Kitaibelia vitifolia* on *Abutilon thompsoni*. It is especially attractive because of its variegated grapelike foliage and showy pink flowers.

80406. LABURNUM ANAGYROIDES ALSCHINGERI (Vis.) C. Schneid. (*Cytisus alschingeri* Hort.). Fabaceae.
Goldenchain.

A form of the goldenchain with more silky and bluer-gray leaves and nearly erect racemes of golden-yellow flowers. Native to southern Europe.

For previous introduction see No. 76347.

80407. LONICERA sp. Caprifoliaceae.
Honeysuckle.

Hcrs. No. 2004.

80408. PYRACANTHA sp. Malaceae.
Firethorn.

M. V. No. 6257.

80409. SORBUS WILSONIANA C. Schneid.
Malaceae.

A tree, up to 30 feet high, with elliptic-lanceolate yellowish green leaflets and rather small white flowers in large terminal corymbs. It is native to western China.

80410. VERONICA ROENITZERI Hort.
Scrophulariaceae.

A herbaceous variety. (Has flowered only a little but suggests that it may prove somewhat like *V. spicata*.)

80411. VERONICA WALDSTEINII Hort.
Scrophulariaceae.

A variety said to have spikes of blue flowers which appear very late in the summer.

80412 and 80413.

From Gambia, British West Africa. Seeds presented by Archibald Brooks, Director, Department of Agriculture. Received May 15, 1929.

80412. ADANSONIA DIGITATA L. Bombacaceae.
Baobab.

A tree about 60 feet high and sometimes 30 feet in diameter, native to tropical Africa, with palmate leaves divided into five to seven lanceolate leaflets, white flowers 6 inches across, and large gourdlike fruits with edible pulp.

For previous introduction see No. 77271.

80412 and 80413—Continued.

80413. FICUS VOGELLI Miquel. Moraceae.
Fig.

A beautiful shade tree of moderate size with large oblong elliptic leaves which are mostly gathered at the ends of the twigs. The small fruits are attractively grouped on the branches and produce many viable seeds. Native to tropical Africa.

For previous introduction see No. 70946.

80414 to 80416. MYOPORUM ACUMINATUM ANGUSTIFOLIUM Benth.

From South Australia. Seeds presented by W. J. Spafford, Deputy Director of the Department of Agriculture, Adelaide, South Australia. Received May 7, 1929.

An erect glabrous shrub with alternate nearly linear leaves 1 to 3 inches long, axillary clusters of two to four small campanulate white flowers, followed by slightly succulent fruits about a quarter of an inch in diameter. It is native to Queensland, Australia.

80414. Obtained from a tree about 14 feet high, growing in Rochester.

80415. Obtained from a shrub about 9 feet high, growing in Pekina.

80416. Obtained from a shrub about 9 feet high, growing in Port Germein.

80417 to 80421. FICUS spp. Moraceae.
Fig.

From Manila, Philippine Islands. Seeds presented by W. H. Brown, Director of the Bureau of Science, Manila. Received May 16, 1929.

80417. FICUS CALOPHYLOIDES Elmer.

A large spreading tree, 70 feet high and 4 feet in diameter, native to the Philippine Islands, with elliptic leaves 5 inches long and flattened globose yellowish-brown fruits.

For previous introduction see No. 77657.

80418. FICUS INDICA L.

A tree up to 50 feet high, which resembles the banyan but does not take root from its branches. The leaves are 4 to 7 inches long, with four to six pairs of nerves, and the yellowish-red globose fruits, a third of an inch in diameter, are crowded together in sessile pairs. Native to tropical Asia and Malaya.

80419. FICUS MINAHASSAE (Teysm. and De Vr.) Miquel.

A rather small tropical tree, native to the Netherland East Indies, with a soft spongy trunk, irregularly heart-shaped acute leaves, and numerous small fruits about one-fourth of an inch long.

80420. FICUS NUDA Miquel.

A tropical woody plant, native to the Philippine Islands, which is closely related to *Ficus benjamina*. The elliptic or oblong leaves are somewhat leathery, and the small sessile fruits are globular.

80421. FICUS ODORATA (Blanco) Merr.

A tree, native to the Philippine Islands, 15 to 18 feet high. It is marked

80417 to 80421—Continued.

by its very rough, fragrant leaves which are sublanceolate with a 1-sided rounded margin at the base.

For previous introduction see No. 50698.

80422. CUCURBITA MAXIMA Duchesne. Cucurbitaceae. Squash.

From Doleib Hill, Nalakal, Anglo-Egyptian Sudan, Africa. Seeds presented by H. B. Gephardt, American Mission. Received May 20, 1929.

A pumpkin which requires a long growing season. It has a hard greenish rind when ripe, is of fair quality, and is a good keeper.

80423 to 80433.

From Newry, Ireland. Plants purchased from T. Smith, Daisy Hill Nursery. Received May 7, 1929.

80423 to 80431. CYTISUS spp. Fabaceae. Broom.

80423. CYTISUS ARDOINI Fourn.

A low decumbent shrub less than a foot high, with slightly grooved villous branchlets, trifoliolate leaves with obovate villous leaflets about half an inch long, and racemes of golden-yellow flowers. It is native to the southeastern part of France.

80424. CYTISUS BEANII Nichols.

This hybrid between *Cytisus ardoini* and *C. purgans* is a semiprostrate shrub 1 to 2 feet high, with simple linear pubescent leaves and clusters of one to three deep-golden flowers.

80425. CYTISUS PURPUREUS Scop.

Variety *incarnatus*. A form with flesh-colored flowers.

80426 to 80431. CYTISUS SCOPARIUS ANDREANUS Dipp. Paradise broom.

80426. *Prostratus*. A prostrate form.80427. *Daisy Hill*. A variety bearing red and cream-colored flowers.80428. *Dragonfly*. An upright shrub with slender green branches, small obovate leaflets, and flowers an inch across in shades of crimson and old gold.80429. *Fairy*. An upright shrub with slender green branches, small obovate leaflets, and flowers an inch across, which are cream and pink.80430. *Firefly*. An upright shrub with slender green branches, small obovate leaflets, and scarlet and yellow flowers an inch in diameter.80431. *Newry Gold*. An upright shrub with slender green branches, small obovate leaflets, and flowers an inch across.

80432. DAPHNE BLAGAYANA Freyer. Thymelaeaceae. Balkan daphne.

A low diffusely branched shrub native to the mountains of southeastern Europe. The obovate leaves, 1 to 2 inches long, are crowded at the end of the branchlets, and the yellowish-white fragrant flowers, borne in heads, are followed by globose pinkish-white fruits.

For previous introduction see No. 40613.

80423 to 80433—Continued.

80433. DAPHNE CNEORUM L. Thymelaeaceae.

Variety *major*. A form having a more vigorous growth than the type and also larger flowers.

80434 and 80435.

From Angol, Chile. Seeds presented by D. S. Bullock, Escuela Agrícola de "El Vergel." Received May 7, 1929.

80434. LAPAGERIA ROSEA Ruiz and Pav. Liliaceae. Red Chile-bells.

This, the national flower of Chile, has been occasionally grown in northern greenhouses. It is an evergreen climber of slow growth, with slender, wiry stems, alternate narrowly ovate leaves, and bright-crimson, pendent tubular flowers about 3 inches long in the axils of the upper leaves or in terminal racemose clusters.

For previous introduction see No. 69168.

80435. LARDIZABALA BITERNATA Ruiz and Pav. Lardizabalaceae.

A shrubby evergreen climber with ternate or biternate dark-green leathery leaves 2 to 4 inches long which are either entire or armed with one or two spinelike teeth. The purple-brown flowers are dioecious. The staminate ones, about an inch across, are produced in a dense drooping raceme, while the pistillate flowers are larger and solitary, developing into edible oblong fleshy fruits 2 or 3 inches long. Native to southern Chile.

For previous introduction see No. 35960.

80436 to 80450.

From Kirkee, Poona, Bombay, India. Seeds presented by the Superintendent of the Ganeshkhind Botanical Gardens, through William H. Beach, American Vice Consul in Charge, Bombay. Received May 20, 1929.

80436 to 80444. CITRULLUS VULGARIS Schrad. Cucurbitaceae. Watermelon.

80436. A black-seeded variety.

80437. A white-seeded variety.

80438. No. 4. The fruits are large and long, with black skin, red flesh, and brown seeds.

80439. No. 5. A variety with small, long fruits which have black skin, red flesh, and black seeds.

80440. No. 6. A variety producing long, large fruits with grayish white skin, red flesh, and black seeds.

80441. No. 7. A variety producing small, round fruits with grayish white skin, rose-colored flesh, and brown seeds.

80442. No. 8. The fruits are large and long, with black skin, red flesh, and whitish seeds.

80443. No. 9. A variety with long, white fruits which have red flesh and black seeds.

80444. No. 10. The fruits are large and round, with white skin, red flesh, and black seeds.

80436 to 80450—Continued.

80445 to 80450. CUCUMIS MELO L. Cucurbitaceae. Melon.

80445. Mixed seeds.

80446. *Chibud*.

80447. *Narri*.

80448. No. 1. A variety producing oblate fruits with white flesh.

80449. No. 2. A variety producing oblate fruits with red flesh.

80450. No. 3. *Jaw*. A variety producing very sweet globular fruits.

80451. VOANDZEIA SUBTERRANEA (L.) Thouars. Fabaceae.

From Bibanga, District du Lomami, Belgian Congo, Africa. Seeds presented by Walter D. Pettis, American Presbyterian Congo Mission, Luebo, Belgian Congo. Received May 17, 1929.

Nyimu. A plant which thrives best on a red sandy soil and matures in less than six months from the time it is planted. It is not of very much value as a human food, but as a stock food it may be well worth trying.

For previous introduction see No. 78255.

80452 to 80454. PISTACIA VERA L. Anacardiaceae. Pistache.

From Damghan, Persia. Nuts obtained from Jalil K. Hashimzade, Ministry of Public Works, Department of Roads, Teheran, through Augustin Ferrin, American Consul, Teheran. Received May 25, 1929.

80452. A variety producing large nuts. The shells are tinted pink inside.

80453. A variety producing medium-sized nuts with mostly dark-colored shells.

80454. A variety producing small nuts with mostly light-colored shells.

80455 to 80498.

From Japan. Bulbs and seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 27, 1929.

80455. LILIUM sp. Liliaceae. Lily.

No. 111. April 23, 1929. Bulbs obtained in the market at Tokyo. A species used as a vegetable and also probably as an ornamental.

80456 and 80457. ZINZIBER OFFICINALE Roscoe. Zinziberaceae. Ginger.

80456. No. 115. April 23, 1929. Roots of a commercial ginger obtained in the market at Tokyo.

80457. No. 123. April 27, 1929. Roots sent from Tokyo by a nurseryman specializing in the growing of ginger.

80458. ZINZIBER sp. Zinziberaceae.

No. 114. April 23, 1929. Forcing roots obtained at Tokyo.

80459 to 80498. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soybean.

80459. No. 2. Obtained at the National Japanese Food Show held at Ueno Park, Tokyo, April 5, 1929. A mixed sample taken from a basket of seed showing the soybeans used in the manufacture of bean curd, or tofu.

80455 to 80498—Continued.

80460. No. 13. Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. *Maru Kuro*. A black-seeded variety said to be used as a candied bean, as which it is called *Mimame*.

80461. No. 14. Obtained from Nishigahra, Tokyo, April 11, 1929. *Wase Eda Mame*. A greenish-yellow seeded variety originally grown in Hokushu. It is said to be used green.

80462. No. 15. Obtained in the suburbs of Tokyo, April 11, 1929. *Furisode*. A greenish-yellow seeded variety originally grown in Hokushu. It is said to be used in the manufacture of bean curd or tofu, soy sauce, and miso.

80463. No. 16. Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. *Tsurunoko*. A large yellow-seeded variety said to be used in making bean curd or tofu, miso, soy sauce, and natto.

80464. No. 17. Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. *Hira Sata Kuro Daizu*. A medium large flat black-seeded variety said to be used as a candied bean.

80465. No. 31. From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929, and originally grown in the Tokyo district. *Chusei O Saya Eda Mame*. A large yellow-seeded variety for garden purposes, said to be used principally as a green bean, being cooked in the pod.

80466. No. 32. Obtained at Nichigahara, Tokyo, April 15, 1929. *Okuro Maru Daizu*. A round black-seeded variety grown in Hokushu. It is said to be used as a candied bean, when it is called *Mimame*.

80467. No. 33. Obtained in Takadacho, Tokyo, April 15, 1929, and originally grown in Hokushu. *Ao Daizu*. A large greenish-yellow seeded variety said to be used in making bean curd, miso, natto, and soy sauce. It is also used for forage and green manure.

80468. No. 34. Obtained in Takadacho, Tokyo, April 15, 1929, and originally from Hokushu. *Tsurunoko Daizu*. A large yellow-seeded variety said to be used in making bean curd, soy sauce, natto, and miso. It is also used for forage and green manure.

80469. No. 35. Obtained in Takadacho, Tokyo, April 15, 1929, and originally from Hokushu. *Kuro Maru Daizu*. A large black round-seeded variety said to be used principally as candied beans.

80470. No. 36. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from the Tokyo district. *Souseikurome O Saya Daizu*. An early variety with large greenish-yellow black-eyed seeds and large pods. It is said to be used for oil, soy sauce, miso, natto, and bean curd.

80471. No. 37. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from the Tokyo district. *Sousei Kuro Sakigake*. An early variety with large black seeds, said to be used principally as candied beans.

80455 to 80498—Continued.

80472. No. 38. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929. *Chusei O Saya Eda Mame*. A large yellow-seeded variety said to be the largest soybean used for garden purposes and to have a sweet flavor. It is said to be used principally as a green bean, being cooked in the pod.

80473. No. 39. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from the Tokyo district. *Cha Mame*. A large brown-seeded variety said to be used as a green bean when boiled in the pod.

80474. No. 40. Obtained at Nishigahara, Tokyo, April 15, 1929, and originally from Hokushu. *Shiro Tsubu*. A yellow-seeded variety said to be used in making bean curd or tofu, natto, and soy sauce.

80475. No. 41. Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from the Tokyo district. *Higan Mame*. A rather late yellow-seeded variety said to have white sweet meat and to be used as a green bean, being cooked in the pod.

80476. No. 42. Obtained from the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929, and originally from the Tokyo district. *Sousei O Saya Eda Mame*. One of the earliest varieties of garden soybeans with large pods and large yellowish-green seeds. It is said to be very sweet as a green bean, being cooked in the pod.

80477. No. 43. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from Hokushu. *Sousei Ao Sakigake*. An early green variety with medium, small yellowish-green seeds. It is said to be used in making soy sauce, bean curd, miso, and natto.

80478. No. 60. Obtained from the Japan Seed Co., Shibuya, Tokyo, April 19, 1929, and originally from Fukushima Ken. *Chusei O Saya Daizu*. A middle-season variety with yellow seeds. It is used as a green vegetable or as dried beans in making tofu.

80479. No. 62. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Iwate Ken, northeastern Japan. *Shikou Obikuri Daizu*. A sweet greenish-yellow variety said to be used as a green vegetable, and also when ripe in making miso and bean curd.

80480. No. 63. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from the Saitama Ken. *Gokuwase Daihosun Shinbon Daizu*. One of the earliest varieties with an abundance of pods containing yellow seeds. It is said to be used especially as a green vegetable and is the earliest of the varieties used for this purpose.

80481. No. 64. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. *Roksun*

80455 to 80498—Continued.

Daizu. Six-inches soybean, meaning that 10 beans equal 6 inches. A large flat yellow-seeded variety used as a green vegetable like the green Lima bean.

80482. No. 65. From the Japan Seed Co., Shibuya, Tokyo, April 19, 1929, and originally from Fukushima Ken, northeastern Japan. *Sousei O Saya Daizu*. An early large-podded soybean with large greenish-yellow seeds. It is said to be used as a green vegetable, and when dry it is used for bean curd and miso.

80483. No. 66. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Nagano Ken, central Japan. It is said to be used principally as a green vegetable. This variety is called "seaweed" because of its flavor.

80484. No. 67. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, and originally from Saitama Ken. *Sato Daizu*. A black seeded soybean said to be used as candy beans.

80485. No. 68. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Saitama Ken. *Chusei Hattoku Daizu*. A middle-season variety with yellow seeds. It is said to be used as a green vegetable.

80486. No. 69. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Saitama Ken. *Bansei Gokudai Tsukimi Daizu*. A large late harvest-moon soybean with large yellow seeds. It is said to be used as a green vegetable.

80487. No. 72. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Saitama Ken. *Shin Honen Daizu*. A new soybean with an abundance of pods containing yellow seeds. It is used for miso, soy sauce, and bean curd.

80488. No. 97. From T. Sakata & Co., Yokohama, April 26, 1929. *Eda Mame Uase Chaurame*. An early tea-colored variety with medium-large brown seeds. It is said to be used green like the Lima bean.

80489. No. 98. From T. Sakata & Co., Yokohama, April 26, 1929. *Eda Mame Uase Ao Sakigake*. One of the earliest of the green vegetable soybeans with medium-sized greenish-yellow seeds. It is said to be used like the Lima bean.

80490. No. 99. From T. Sakata & Co., Yokohama, April 26, 1929, and originally from Tamba Province, Kyoto Prefecture. *Tamba Otsubu Daizu*. A variety with medium-large yellow seeds used green like the Lima bean, the dried beans being used for bean curd or tofu.

80491. No. 100. From T. Sakata & Co., Yokohama, April 26, 1929. *Eda Mame Uase Kuro Sakigake*. An early variety with medium-large round black seeds, used for cooking with sirup as a candied bean.

80455 to 80498—Continued.

80492. No. 201. From T. Sakata & Co., Yokohama, April 26, 1929. *Eda Mame Uase Kurome Dzaya*. An early large-podded variety with medium-sized greenish-yellow seeds which have black seed scars. It is used green in the same way as Lima beans.

80493. No. 202. From T. Sakata & Co., Yokohama, April 26, 1929. *Daikoku Eda Mame* (Daikoku's black vegetable soybean). A medium-sized slightly compressed black-seeded variety said to be grown in Hokushu. It is used as a candied bean.

80494. No. 203. From T. Sakata & Co., Yokohama, April 26, 1929. *Tsurunoko Daizu*. A small, round, smooth-skinned variety with medium-sized yellow seeds. It is used as a green vegetable and also dried, and is especially good for making bean curd. It is said to have a high protein content.

80495. No. 204. From T. Sakata & Co., Yokohama, April 26, 1929. *Otsubu Muriname*. A medium-large seeded variety with black seed slightly compressed. It is used for cooking in sirup as a candied bean.

80496. No. 205. From T. Sakata & Co., Yokohama, April 26, 1929. *O Tsuba Uase Aoshiro Eda Mame*. An early large variety with medium-sized greenish-yellow seeds, said to be grown in Hokushu. It is used green like the Lima bean, and the dried beans are used for making soy sauce, miso, natto, and bean curd.

80497. No. 206. From T. Sakata & Co., Yokohama, April 26, 1929. *Yedamame Uase Higanmame*. An early equinoctial variety with medium-large, yellow seeds with a brown hilum. It matures about the 18th of September. It is used as a green vegetable, and the dried beans are used for soy sauce, bean curd, and natto.

80498. No. 207. From T. Sakata & Co., Yokohama, April 26, 1929. *O Tsubu Aojiro Daizu*. A large greenish-yellow seeded variety said to be grown in Hokushu. It is said to be used as a green vegetable, and the dried beans are sometimes used in making white miso and natto.

80499. *XIMENIA AMERICANA* L. Olacaceae. False sandalwood.

From the Juba region, Italian Somaliland, Africa. Seeds presented by Dr. Mario Calvino, San Remo, Italy. Received May 31, 1929.

A widely distributed tropical tree with clustered oblong-obtuse leaves, small yellow flowers, and yellow, plumlike fruits inclosing a white nut. In Somaliland, where the fruit is known as "ciunducua," the natives eat the nut, the flesh being too acid.

80500. *HUFELANDIA ANAY* Blake. Lauraceae. Anay.

From Guatemala. Budwood presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received May 24, 1929.

Budwood from a tree planted in the grounds of the United Fruit Co.'s hospital, Quirigua, Guatemala, in 1917. A rather

80500—Continued.

slender tree between 60 and 70 feet high, with nearly smooth, rich red-brown bark which is grayish in places. The young leaves are softly pubescent below and sparsely hairy above. It is said that the flowers are borne during May. The smooth, glossy, purplish-black fruits, 4 to 6 inches long, are slender pyriform, sometimes curved, and pointed at the apex. They ripen during August and September.

For previous introduction see No. 43432.

80501 to 80524.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 27, 1929.

80501 and 80502. *CANAVALIA ENSIFORMIS* (L.) DC. Fabaceae. Jack bean.

80501. No. 27. Obtained in Nishigahara, Tokyo, April 11, 1929. *Tsurunashi*. A large white-seeded bean of the bush type grown in the Tokyo district. It is said to be used for cooking, pickling, and medicinal purposes.

80502. No. 208. Obtained from T. Sakata & Co., Yokohama, April 26, 1929. *Kodachi Natamame*. A white-seeded bean of the bush type which appears about the same as that now grown in the United States. The young pods are used for pickling.

80503 to 80505. *CANAVALIA GLADIATA* (Jacq.) DC. Fabaceae. Sword bean.

80503. No. 29. Obtained in Nishigahara, Tokyo, April 11, 1929. *Aka Natamame*. A red-seeded variety of the runner type grown in the Tokyo district. It is said to be used for cooking, pickling, and for medicinal purposes.

80504. No. 30. Obtained in Nishigahara, Tokyo, April 11, 1929. *Shiro Natamame*. A white-seeded variety of the runner type grown in the Tokyo district. It is said to be used for cooking, pickling, and for medicinal purposes.

80505. No. 209. From T. Sakata & Co., Yokohama, April 26, 1929. *Shiro Natamame*. A white-seeded variety of the runner sword bean. The young pods, 3 to 4 inches long, are used for pickling.

80506 to 80509. *DOLICHOS LABLAB* L. Fabaceae. Hyacinth bean.

80506. No. 28. Obtained in Nishigahara, Tokyo, April 11, 1929. *Fufimame*. A brown-seeded bean of the runner type grown in the Tokyo district. The beans are said to be used for cooking.

80507. No. 53. Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929. *Shirobana Tsuruuri Fugimame*. A brown-seeded bean of the white-flowered runner variety grown in the Tokyo district. The dried beans are said to be used for cooking.

80508. No. 54. Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929. *Akabana Tsuruuru Fugimame*. A brown-seeded bean of the red-flowered runner variety grown in the Tokyo district. The beans are dried for use.

80501 to 80524—Continued.

80509. No. 55. Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929. *Furnichi Fugimame*. A very dark-brown seeded variety of bush bean developed by Professor Furnichi, Tokyo Agricultural College, Tokyo. It is said to be used as green beans boiled in the pod, and the beans are also used when dried.

80510 to 80517. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. Adzuki bean.

80510. No. 18. *Azuki*. Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used chiefly in the manufacture of a jellylike flour for confections.

80511. No. 19. *Sarashi Au*. Obtained in Nishigahara, Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used in the manufacture of a jellylike flour for confections.

80512. No. 20. *Azuki Dainagon*. Obtained in Nishigahara, Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used in the manufacture of a jellylike flour for confections.

80513. No. 21. *Azuki Dainagon*. Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used in the manufacture of a jellylike flour for confections.

80514. No. 22. *Usukawa Azuki*. Obtained in Nishigahara, Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used in the manufacture of a jellylike flour for confections.

80515. No. 61. *Shiro Azuki*. From the Tokyo Seed, Plant, & Implement Co., Konon, Tokyo, April 19, 1929, and originally from near Tokyo, Saitama Ken. It is said to be used for making confections and for flour which is cooked at once and then dried for future use.

80516. No. 70. *Dainagon Azuki*. Obtained in Shibuya, Tokyo, April 19, 1929, and originally from Hokushu. A large red-seeded variety said to be used in making many confections and as a flour.

80517. No. 210. *Dainagon Azuki*. From T. Sakata & Co., Yokohama, April 26, 1929. A large reddish-brown seeded variety used for making all kinds of confections.

80518 and 80519. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

80518. No. 26. *Yacnari* or *Ao Azuki*. Obtained in Nishigahara, Tokyo, April 11, 1929. A small green bean of the bush type grown in the Tokyo district. It is said to be used for bean sprouts and in making confections.

80519. No. 56. *Yacnari*. Obtained from the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A green mung bean said to be used chiefly for sprouts, but it

80501 to 80524—Continued.

is also used as flour in making confections.

80520 to 80523. *VIGNA SESQUIPEDALIS* (L.) Fruwirth. Fabaceae. Asparagus-bean.

80520. No. 24. *Onage Sasage*. Obtained in Nishigahara, Tokyo, April 11, 1929. A light red-seeded variety of the runner type said to be used as string beans when the pods are young.

80521. No. 25. *Turoku Sasage*. Obtained in Nishigahara, Tokyo, April 11, 1929. A light red-seeded variety of the runner type grown in the Tokyo district. It is said to be used as string beans when the pods are young.

80522. No. 57. *Kuro Sanjoku Sasage*. Obtained in Nishigahara, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A black-seeded variety said to be used as string beans when the pods are young, and the seeds are also dried and used as baked beans.

80523. No. 58. *Juroku Sasage*. Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A red-seeded variety said to have pods 2 feet long, and to be used as string beans when the pods are young.

80524. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

No. 23. *Kintoki Sasage*. Obtained from the suburbs of Tokyo, April 11, 1929. A red-seeded variety of the bush type grown in the Biechu district (Inland Sea). It is said to be used as a string bean when young; the beans also are used when dried.

80525 and 80526.

From Formosa, Argentina. Seeds presented by Dr. Lorenzo R. Parodi, University of Buenos Aires. Received May 25, 1929.

80525. *CHLORIS CASTILLONIANA* Lillo and Parodi. Poaceae. Grass.

A stiffly erect grass, 4 to 6 feet high, with linear leaves and a plumelike inflorescence 5 to 8 inches long. It is native to Argentina.

80526. *PANICUM PAUCISPICATUM* Morong. Poaceae. Grass.

A coarse grass, native to Argentina, which roots at the lower nodes and later ascends to 3 feet. The lanceolate leaves are 4 to 6 inches long by an inch broad, and the flowers are in a loose spike.

80527 to 80529. *CHAYOTA EDULIS* Jacq. (*Sechium edule* Swartz). Cucurbitaceae. Chayote.

From Guatemala. Fruits presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received November 26, 1928. Numbered in April, 1929.

80527. No. 8. A smooth medium-sized green variety.

80528. No. 11. A large yellowish green variety which is very spiny.

80529. No. 15. A small white variety.

80530. PROSTANTHERA LASIANTHOS Labill. Menthaceae.

From Tasmania. Seeds presented by L. A. Evans, Headquarters and Technical Service of the Department of Agriculture, Hobart. Received May 31, 1929.

Seeds of the so-called Christmas or native lilac of Tasmania, collected by James Bacon, Verona, near the Huon River Estuary. It is a tall erect shrub up to 12 feet high, having lanceolate-serrate leaves 3 inches long and terminal compound racemes of white flowers marked with purple.

For previous introduction see No. 76721.

80531. EUGENIA AQUEA Burm. f. Myrtaceae.

From Medan, Sumatra. Plants presented by J. A. Lörzing. Received July 7, 1928. Numbered in June, 1929.

A medium-sized tree, 20 to 30 feet high, native to the Molukka Islands, with smooth ovate-oblong evergreen leaves about 2 inches long, large white or red flowers in terminal or axillary cymes, and crimson to white ovoid edible fruits 1 to 2 inches long.

For previous introduction see No. 68026.

80532. PERSEA AMERICANA Mill. (*P. gratissima* Gaertn. f.). Lauraceae. Avocado.

From Waldo, Fla. Bud sticks presented by C. C. Shooter. Received May 31, 1929.

A tree about 50 feet high with an immense trunk. It survived the freeze in January, 1928, at which time the thermometer went to 15° F. at Gainesville, and the cold lasted several days. The tree, then in full bloom, lost its leaves for the first time, and the branches were cut back about one-third. The smaller seedling trees did not even lose their leaves when orange and grapefruit trees were frozen to the ground. It starts blooming in January and continues through until March, even if frost catches it, and has had as many as 1,000 fruits.

80533 to 80539.

From Tokyo, Japan. Seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 31, 1929.

80533. ASTRAGALUS SINICUS L. Fabaceae.

No. 229. From the Tokyo Seed, Plant & Implement Co., Konon, May 6, 1929. A red-flowered variety quite common in the farming area about Tokyo, where it is said to be used for forage and green manure. It is a winter crop, being planted early in the fall, and was in full bloom about the first of May.

For previous introduction see No. 70969.

80534. MEDICAGO HISPIDA DENTICULATA (Willd.) Urban. Fabaceae. Bur clover.

No. 215. *Mokushika*. From the Yamato Seed Co., Takadacho, May 6, 1929. A clover said to be chiefly used for green manure and to some extent as a forage. It is also said to be different from the *Medicago denticulata* grown in the United States.

For previous introduction see No. 60562.

80533 to 80539—Continued.**80535. PISUM SATIVUM** L. Fabaceae. Pea.

No. 228. *Endo*. From the Tokyo Seed, Plant & Implement Co., Konon, May 6, 1929. A winter variety sown during the early fall in the Tokyo district. The pods are used as a green vegetable when the peas are just commencing to form, and later the peas are used.

80536 and 80537. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soybean.

80536. No. 134. From the Soy Sauce Laboratory, Imperial Experiment Station, Nishigahara, May 3, 1929. The seeds were originally grown in Manchuria. This sample is apparently mixed and may consist of several strains. It came from a lot used in the manufacture of soy sauce.

80537. No. 212. *Ryokuhi Daizu*. From the Yamato Seed Co., Takadocho, May 6, 1929. A small black-seeded variety said to be used especially as a green-manure crop.

80538 and 80539. VICIA FABA L. Fabaceae. Broadbean.

80538. No. 211. *Sora Mame*. From the Yamato Seed Co., Takadocho, May 6, 1929. A variety grown in the Tokyo district and southward. When full grown the beans are used after the manner of the green Lima bean. The dried beans are used in making candied beans by boiling in sirup and they are also roasted.

80539. No. 216. *Issum Sora Mame* (1-inch broad bean). From the Yamato Seed Co., Takadocho, May 6, 1929. A variety grown extensively for food in the Tokyo district and southward. It is planted during the fall. The beans are used especially in making candied beans by boiling in sirup.

80540. PERSEA SCHIEDEANA Nees. Lauraceae. Coyo.

From Tela, Honduras. Plants presented by Alfred F. Butler, Horticulturist, Research Department of the United Fruit Co. Received June 3, 1929.

This plant, known as *Yas* in Costa Rica and *Coyo* in Guatemala, occurs from southern Mexico to Panama. In Costa Rica it is found abundantly on the slopes of Irazu at altitudes between 4,000 and 6,000 feet. The fruits greatly resemble avocados. Up to the present the coyo has not shown much promise in Florida or California. It is somewhat slow of growth and probably will not bear until the trees are at least 8 or 10 years old. Efforts are being made to introduce the best seedling varieties from Guatemala and to propagate them by grafting. In this way it may be possible to encourage early fruiting and to have fruit of better quality than would be obtained from most seedlings.

For previous introduction see No. 52787.

80541. SACCHARUM OFFICINARUM L. Poaceae. Sugarcane.

From Pasoroean, Java. Cuttings presented by Dr. V. J. Koningsberger, Proefstation voor der Java Suikerindustrie. Received June 6, 1929.

P. O. J. 1337.

80542 and 80543. CANNA EDULIS Ker.
Cannaceae. Edible canna.

From Pointe à Pitre, Guadeloupe, French West Indies. Tubers presented by C. Holman B. Williams, Directeur, Station Agronomique. Received May 23, 1929.

A close relative of the ornamental cannas, cultivated for its edible tubers.

For previous introduction see No. 78852.

80542. *Jaune*. 80543. *Rouge*.

80544 to 80549. ROSA spp. Rosaceae.

From Ottawa, Canada. Plants presented by W. T. Macoun, Dominion Horticulturist of the Central Experimental Farm. Received May 3, 1929.

80544 to 80547. *ROSA HARISONII* Rivers.
Harison's yellow rose.

80544. *Antenor*. A moderate grower bearing double apricot-colored flowers which fade to cream.

80545. *Lucasia*. A moderate grower bearing large, single, cream-colored flowers.

80546. *Orinda*. A vigorous variety which keeps its foliage until late in the season and bears deep-cream semidouble flowers. Suckers are produced freely.

80547. *Silvander*. A moderate grower bearing single yellow flowers.

80548 and 80549. *ROSA SPINOSISSIMA* L.
Scotch rose.

For previous introduction and description see No. 80289.

80548. A variety bearing large flowers.

80549. A strong-growing seedling of the Scotch rose which suckers freely and requires no pruning. The foliage is like a hybrid perpetual, and the flowers are very double, flat, and fragrant, but inclined to bail badly in wet weather.

80550. GREWIA OCCIDENTALIS L. Tiliaceae.

From Kirstenbosch, Newlands, near Cape Town, Union of South Africa. Seeds presented by R. H. Compton, Director of the National Botanic Gardens. Received May 24, 1929.

The younger parts of this evergreen shrub are covered with rusty tomentum. The dentate cordate leaves are 1 to 2 inches long, and the small flowers, in axillary or terminal cymes, are followed by purplish 4-lobed fruits the size of small peas. Native to Ethiopia and also the cape region.

For previous introduction see No. 51147.

80551. INODES MEXICANA (Mart.) Standl. (Sabal mexicana Mart.)
Phoenicaceae. Palmetto.

From Georgetown, Demerara, British Guiana. Seeds presented by J. S. Dash, Director of the Department of Agriculture. Received June 5, 1929.

A tall palm up to 60 feet high, with palmate leaves divided into linear segments having numerous long threads on the margins. The inflorescence is short, dense, and recurved, and the fruits are flattened globose and black. It is native to Oaxaca, Mexico.

80552 and 80553. PERSEA AMERICANA Mill. (P. gratissima Gaertn. f.)
Lauraceae. Avocado.

From Habana, Cuba. Bud wood obtained through Alfred F. Butler, Horticulturist, Research Department of the United Fruit Co., Tela, Honduras. Received June 6, 1929.

Large summer varieties of the Pollock type. The varieties were selected by Senator Menocal, Habana, Cuba, who named them *Wilson Popenoe* and *Raul Arango*. Unfortunately, during shipment to Tela, Honduras, the labels were lost, and it is therefore impossible to determine which is which.

80552

80553

80554. ULMUS JAPONICA Sarg. Ulmaceae.
Japanese elm.

From Nikolsk-Ussuriisk, Maritime Province, Siberia, Union of Socialistic Soviet Republics. Seeds presented by the Director of the State Russian Geographical Society. Received June 6, 1929.

A large handsome hardy elm occasionally 90 feet high. Native to northeastern Asia.

For previous introduction see No. 76469.

80555. ARTOCARPUS COMMUNIS Forst. Moraceae.
Breadnut.

From Summit, Canal Zone. Seeds presented by J. E. Higgins, Agronomist in Charge of the Plant Introduction Gardens. Received June 10, 1929.

A form of the breadfruit in which the seeds are fully developed. These are about the size of chestnuts and are roasted and eaten.

80556 to 80565.

From Cape Town, Union of South Africa. Bulbs presented by W. S. Duke & Co. Received June 10, 1929.

80556. AGAPANTHUS sp. (Abumon sp.).
Liliaceae.

A dwarf blue-flowered species.

80557 to 80559. ARUM spp. Araceae.

80557. *ARUM* sp.

A red-flowered species.

80558. *ARUM* sp.

A yellow-flowered species.

80559. *ARUM* sp.

A yellow-flowered seedling.

80560. GLADIOLUS sp. Iridaceae.

Painted Ladies.

80561. NERINE sp. Amaryllidaceae.**80562 to 80564. ORNITHOGALUM spp. Liliaceae.**

80562. *ORNITHOGALUM* sp.

Chincherichee. A late-flowering species.

80563. *ORNITHOGALUM* sp.

Chincherichee. A yellow-flowered form.

80564. *ORNITHOGALUM* sp.

Chincherichee. A white-flowered form.

80556 to 80565—Continued.

80565. (Undetermined.)

*Snowdrops.*80566. *CHORDOSPARTIUM STEVENSONI*
Cheeseman. Fabaceae.

From South Island, New Zealand. Seeds presented by C. J. Reakes, Director General of the New Zealand Department of Agriculture, Wellington. Received June 4, 1929.

A leafless shrub or small tree up to 20 feet high, native to New Zealand, with long slender pendulous branches and racemes, 1 to 2 inches long, of small purple flowers.

For previous introduction see No. 77552.

80567 to 80570.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received in May and June, 1929.

80567. *FERONIA LIMONIA* (L.) Swingle
(*F. elephantum* Correa). Rutaceae.

Wood apple.

Vilatti. A very graceful small thorny tree, native to India. The round fruits, about 2 inches in diameter, contain rather dry sweetish aromatic pulp, suitable for making jelly.

For previous introduction see No. 48626.

80568. *ALBIZZIA LEBBEKOIDES* (DC.)
Benth. Mimosaceae.

A small feathery-topped ornamental tree which is very drought resistant. It is closely related to the well-known lebeck tree, *Albizzia lebbek*, but has smaller and more numerous leaflets, smaller flowers, and broader pods. A native of the Philippine Islands.

80569. *FICUS* sp. Moraceae. Fig.

From Ilocos Norte. A large ornamental shiny green-leaved tree of weeping habit.

80570. *RADERMACHERA* sp. Bignoniaceae.

Growing in coral lime formation in Ilocos Norte. A tree bearing pale-mauve flowers which have yellowish markings on the throat.

80571 to 80574. *AMYGDALUS PERSICA* L.
(*Prunus persica* Stokes). Amygdalaceae.
Peach.

From the island of St. Helena. Seeds presented by H. Bruins Lich, Horticultural Officer of the Agriculture and Forestry Department. Received June 7, 1929.

80571. No. 1. *Large yellow.* Fruits clingstone with yellow skin and juicy yellow flesh of good flavor.

80572. No. 2. *Carrot.* Fruits freestone with pink skin and pink flesh of good flavor.

80573. No. 3. *Red center.* Fruits freestone with rosy skin and white and red flesh of good flavor.

80574. No. 4. *White.* Fruits freestone with creamy white skin and cream-colored flesh of fair flavor.

80575. *ORNITHOGALUM LACTEUM* Jacq.
Liliaceae.

From Rosebank, near Cape Town, Union of South Africa. Bulbs purchased from Charles Ayres. Received June 10, 1929.

Chincherichee Darling. A variety from Darling, a district about 80 miles from Cape Town. The flowers are white with yellowish centers. They begin blooming about the first of November and usually continue until about the first of December. This variety is only at its best from larger bulbs. Anything of pigeon-egg size or larger is considered good, and under cultivation the bulbs frequently increase to the size of a large hen's egg. It does not increase very freely, however, under cultivation, but can be reproduced very successfully from seed, the seedling bulbs flowering about the third season.

80576 to 80629.

From Tokyo, Japan. Collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 27, 1929.

80576 to 80582. *BRASSICA* spp. Brassicaceae.

Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929.

80576. *BRASSICA* sp.

No. 81. *Nagina, Takana.* A variety used as greens and also pickled with salt.

80577. *BRASSICA* sp.

No. 87. *San tou Sai*, variety *Makino*. A variety which does not form a head. It is used as a pickle when salted, and the young leaves are used as spinach.

80578. *BRASSICA* sp.

No. 88. *Tai Kai Shun Paku Sai* (large spring Chinese cabbage). A variety which forms a head and is used like ordinary cabbage.

80579. *BRASSICA* sp.

No. 89. *Katsuona* (Japanese bigstem mustard plant). A variety said to be used as a salted pickle and a green vegetable.

80580. *BRASSICA* sp.

No. 90. *Seppaku Taisai, Pak Choi* (Japanese whitemustard cabbage). A variety which does not form a head. It is said to be used like the Chinese cabbage, and the young leaves are used like spinach. It is also pickled with salt.

80581. *BRASSICA* sp.

No. 92. *Kekkuyu Hakusai* (improved spring white Chinese cabbage). Said to be used like the ordinary Chinese cabbage, *Pe tsai*.

80582. *BRASSICA* sp.

No. 93. *Uguisa Na, Komatsu Na* (Japanese green cabbage). Said to be used like spinach.

80583. *CARICA PAPAYA* L. Papayaceae.
Papaya.

No. 104. Obtained from a fruit stand in Tokyo, where it had been shipped from Taiwan. The fruit shows a starlike arrangement in cross section which has not been previously noted in a papaya.

80576 to 80629—Continued.

80584 and 80585. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

Seeds from the Tokyo Seed, Plant, & Implement Co., Konon, Tokyo, April 19, 1929.

80584. No. 82. *Ka Ho Sui Ka*. Used as the ordinary squash.

80585. No. 91. *Rokoku Ogon Mitsu Suika* (Russian golden sweet watermelon). A variety used as the ordinary watermelon.

80586. *COLOCASIA* sp. Araceae.

No. 112. Tubers obtained in the market at Tokyo, April 23, 1929.

80587. *COLOCASIA* sp. Araceae.

No. 113. Corms obtained in the market at Tokyo, April 23, 1929.

80588 to 80591. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

Seeds from the Tokyo Seed, Plant, & Implement Co., Konon, Tokyo, April 19, 1929.

80588. No. 74. *Ginmakuwa* (Japanese muskmelon). A variety used as the ordinary muskmelon.

80589. No. 77. *Tokyo o Shirouri* (Japanese vegetable melon). Said to be used in making a salted pickle.

80590. No. 83. *Narukomakuwa*. Used as the ordinary muskmelon.

80591. No. 86. *Enaga Shinuri*. Said to be used in making salted pickles.

80592 to 80596. *CUCURBITA MOSCHATA* Duchesne. Cucurbitaceae. Cushaw.

Seeds from the Tokyo Seed, Plant, & Implement Co., Konon, Tokyo, April 19, 1929.

80592. No. 75. *Kikuza Nankin, Kabocha*. Said to be used as the ordinary squash.

80593. No. 76. *Chirimeu Nankin* (large curled squash). Said to be used like the ordinary squash.

80594. No. 79. *Gokunase Godan We Sato Nankin, To Nasu* (earliest 50-pound sugar squash). Used as an ordinary cooked squash.

80595. No. 80. *Saikyo Nankin, Tonasu*. Used as an ordinary squash.

80596. No. 85. *Sousei Kurokawa Nankin* (earliest black-skinned Japanese squash). Said to be used as the ordinary squash.

80597 and 80598. *CUCURBITA PEPO* L. Cucurbitaceae. Pumpkin.

Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929.

80597. No. 78. *Shokudo Nozyu o* (table queen). A variety said to have sweet flesh. It keeps well in the winter after harvesting.

80598. No. 84. *Namasu Nankin* (Japanese salad squash). A new variety said to be used raw for salads.

80599. *LILIUM* sp. Liliaceae. Lily.

No. 96. Bulbs of a mountain lily from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. *Yama Yuri*. It is commonly known as

80576 to 80629—Continued.

mountain lily, cooking lily, and Eizan lily. Eizan is the name of a mountain where this lily grows abundantly. The stems are 5 to 6 feet high, the leaves broad and striped, and the flowers have a very strong odor and are generally white with the inside of the petals spotted dark red.

80600. *FATSIA JAPONICA* (Thunb.) Decaisne and Planch. Araliaceae.

No. 116. Seeds obtained at the Botanical Garden in Tokyo, April 23, 1929. This broad-leaved evergreen undershrub is extensively used here in most of the parks so far visited.

80601. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceae. Sweetpotato.

No. 110. Tubers obtained in Tokyo, April 23, 1929. A rather long variety of good size and light pink on the outside.

80602. *LACTUCA* sp. Cichoriaceae. Lettuce.

No. 73. Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. *Ryuzetsu Sai* (alligator's tongue). A green-leaved vegetable generally used as a garnish and for salting down.

80603 to 80623. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

Nos. 80603 to 80608 were from Nishigahara, Tokyo, April 11, 1929.

80603. No. 3. *Sapporo Oingen*. A white-seeded variety of runner bean, originally from Hokushu, said to be used for boiling and making jam.

80604. No. 4. *Kintoki Uzura*. A red-seeded variety of runner bean said to be used for boiling and making jam.

80605. No. 5. *Ogon*. A light brown-seeded variety of bush bean, originally grown in Hokushu, said to be used for green beans.

80606. No. 6. *Goishi*. A black and white seeded variety of bush bean originally from Hokushu, said to be used as string beans.

80607. No. 7. *Usuki*. Originally grown in Kokushu. A cream-seeded variety of bush bean said to be used as green beans.

80608. No. 8. *Hoso Suzunari*. Originally grown in Hokushu. A white-seeded variety of the bush type with black spots at each end of the seed scar; said to be used as string beans.

80609. No. 9. *Chunaga Uzura*. From the suburbs of Tokyo, April 11, 1929. A variety of the runner type cream colored mottled with red, said to be used as string beans. The dried beans are used baked.

80610. No. 10. *Kintoki Uzura*. From the suburbs of Tokyo, April 11, 1929. A red-seeded variety of the runner type, said to be used in making a sweet bean jam and used in confections.

80611. No. 11. From Nishigahara, Tokyo, April 11, 1929, originally grown in Hokushu. A variety of the runner type, cream colored mottled with red. This variety is

80576 to 80629—Continued.

said to be used as string beans and also dried.

80612. No. 12. *Isshaku Ingen*. From Nishigahara, Tokyo, April 11, 1929, and originally grown in Hokushu. A light brown-seeded variety of the runner type, said to be used as string beans.

80613. No. 44. *Ao o saya Shirotane, Shayaku gosum*. From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929. A large white-seeded variety of the bush type, originally grown in the Tokyo district, and said to be used as string beans.

80614. No. 45. *Naga Kintoki Ingen*. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A very dark red-seeded variety of the runner type, said to be the *Canadian Wonder*. It is used as string beans, and the dried beans are used in making sweet bean jam.

80615. No. 46. *Shakugo Sun Ingen*. From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929. A light brown-seeded variety of the bush type originally grown in the Tokyo district, said to be used as string beans.

80616. No. 47. *Nagauzura Ingen*. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A cream-colored variety of the bush type mottled with red, used as string beans.

80617. No. 48. *Tsuruuri Goku Naga Ingen*. From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929. A long-podded runner bean with large flat cream-colored seeds mottled with black. It is said to be used as string beans.

80618. No. 49. *Otafuku Ingen*. From Nishigahara, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A large white-seeded variety of the bush type said to be used as string beans. The dried beans are used as a dessert after cooking with sirup.

80619. No. 50. *Shiro Tsuro Ingen*. From Takadacho, Tokyo, April 15, 1929, originally grown in Hokushu. A white runner bean with large flat white seeds, said to be used in making all kinds of confections, such as sweet bean jam, etc.

80620. No. 51. *Yamato's Omaru Uzura Ingen*. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, originally grown in the Tokyo district. Seeds selected from the *Golden Carmine* by the Yamato Seed Co. A runner type said to be used as string beans and also in making a sweet jam called kinton.

80621. No. 52. *Gokuwase Fusanari Ingen*. From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929, and originally grown in the Tokyo district. One of the earliest of the bunch beans for forcing in the greenhouse or hotbed. A light brown-seeded variety of the bush type said to be sown late in the fall in hotbeds or greenhouses.

80576 to 80629—Continued.

80622. No. 59. *Shima Uzura* (mottled garden bean). From Shibuya, Tokyo, April 19, 1929. A cream-seeded variety of the runner type mottled with red. It is used for green beans and also for making bean jam called kinton.

80623. No. 71. *Tora Maru Ingen* (round tiger bean). From Shibuya, Tokyo, April 19, 1929, originally grown in Hokushu. A mottled white variety of the bush type, said to be used as dried beans in making a sweet jam or paste.

80624. *PISUM SATIVUM* L. Fabaceae. Pea.

No. 1. *Hiroshim Akabana Endo* (earliest garden pea). Seeds from Kagawa Mura, Saiki Gun, Hiroshima Ken, April 5, 1929. Said to be used as the garden pea.

80625. *SOLANUM MELONGENA* L. Solanaceae. Eggplant.

No. 95. *Shinkoko o naga Nasu* (Chinese black snake eggplant). Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. Used as the ordinary eggplant.

80626 to 80628. *SOLANUM TUBEROSUM* L. Solanaceae. Potato.

Tubers from Tokyo, April 23, 1929.

80626. No. 106. Variety *Early White*. The tubers are oblong, small, and of uniform size.

80627. No. 107. White potatoes obtained in the market at Tokyo, said to have been imported from Hokushu.

80628. No. 108. Tubers said to be the same as those sent in under No. 107 [No. 80627], but from another region.

80629. *SPINACIA OLERACEA* L. Chenopodiaceae. Common spinach.

No. 94. *Nihon Norenso*. Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. Used as ordinary spinach.

80630. *CLEMATIS GOURIANA* Roxb. Ranunculaceae.

From Gladwyne, Pa. Plants presented by Mrs. J. Norman Henry. Received June 5, 1929.

For previous introduction and description see No. 80119.

80631 and 80632.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received June 5, 1929.

80631. *MAXIMILIANEA VITIFOLIA* (Willd.) Krug and Urb. (*Cochlospermum hibiscoides* Kunth). Cochlospermaceae.

A deciduous shrub or small tree, native to Central America, with grape-like leaves and large clusters of bright-yellow flowers sometimes 6 inches in diameter.

For previous introduction see No. 77168.

80631 and 80632—Continued.

80632. *PRUNUS CAPULI* Cav. Amygdalaceae. Capulin.

A tree, native to tropical America, up to 40 feet high, with lanceolate long-pointed coriaceous leaves 6 to 8 inches long and stout racemes 4 to 6 inches long of small white flowers which are followed by nearly black globose edible fruits half an inch in diameter.

For previous introduction see No. 77433.

80633 and 80634.

From Dampier Island, near New Guinea. Seeds presented by George J. Fritschel, Dubuque, Iowa. Received June 8, 1929.

80633. *CORYPHA* sp. Phoenicaceae. Palm.

A round-seeded, bushy, fan-leaved palm. In general this is a genus of very tall palms with stout spineless trunks.

80634. *MUCUNA* sp. Fabaceae.

A perennial leguminous climber.

80635. *CITRUS* sp. Rutaceae.

From Tres Amigos, San Carlos, Costa Rica. Seeds presented by Mrs. A. Bendus, through O. F. Cook, Bureau of Plant Industry. Received June 5, 1929.

Sweet lemon. A variety bearing almost continually very juicy, sweet fruits about the size of the Florida breakfast orange.

80636 and 80637.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received June 10, 1929.

80636. *CASSIA* sp. Caesalpinaceae.

From Abea. *Bulilising*. A handsome native flowering tree.

80637. *STREBLUS ASPER* Lour. Moraceae.

Aludig. A drought-resistant tree with drooping branches and dark-green foliage. It produces small yellowish rather sweet fruits somewhat resembling corn kernels in appearance. Native to tropical Asia.

80638. *LAPAGERIA ROSEA* Ruiz and Pav. Liliaceae. Red Chile-bells.

From Angol, Chile. Fruits presented by E. E. Reed, Instituto Agrícola Bunster, through Julius G. Lay, Counselor of the American Embassy, Santiago, Chile. Received June 12, 1929.

For previous introduction and description see No. 80434.

80639 to 80642. *TRITICUM* spp. Poaceae.

From La Moncloa, Madrid, Spain. Seeds presented by Antonio García Romero, Estación Central de Ensayo de Semillas. Received June 11, 1929.

80639 to 80641. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Common wheat.

80639. *Colorado de Alfaro*.

80640. *Portuguese No. 2048*.

80641. *Ruso No. 1*.

80642. *TRITICUM DURUM* Desf. Durum wheat.

Pinct.

80643. *CUCUMIS MELO* L. Cucurbitaceae. Melon.

From Angol, Chile. Seeds presented by E. E. Reed, Instituto Agrícola Bunster, through Julius G. Lay, Counselor of the American Embassy, Santiago, Chile. Received June 12, 1929.

A Chilean melon, 14 to 20 inches long and about half as much in diameter, with a yellow rind which is usually smooth, and yellow to orange flesh of very good flavor.

80644. *SABINEA CARINALIS* Griseb. Fabaceae.

From Dominica, British West Indies. Seeds presented by F. G. Harcourt, Curator and Agricultural Superintendent of the Dominican Agricultural Department. Received June 10, 1929.

A very fine flowering shrub or small tree, known locally as *Bois charibe*, which is considered one of the most showy of the native plants of Dominica. If planted on a dry, rocky hillside where it will be scorched by the sun for a period of three or four months each year it makes a marvelous display with its large scarlet flowers which are borne in clusters of three to five before the featherlike leaves appear.

80645 to 80648.

From Nogent sur Vernisson, Loiret, France. Seeds presented by L. Pardé, Directeur des Ecoles des Barres. Received June 5, 1929.

80645. *BERBERIS REPLICATA* W. W. Smith. Berberidaceae. Barberry.

An evergreen barberry, native to southwestern China, with rather small leaves which have recurved margins and are gray beneath. It is an early and profusely flowering species, bearing its blossoms all along the branches in a very attractive fashion, and the deep-crimson berries make it handsome in the fruiting stage.

For previous introduction see No. 63822.

80646. *MALUS SIKKIMENSIS* (Hook. f.) Koehne. Malaceae. Sikkim crab.

The Sikkim crab is a small tree, rather bushy in habit, which grows wild in the interior of Sikkim, India, at altitudes up to 10,000 feet. The narrowly oval leaves are very woolly beneath, and the white flowers, rosy in the bud, are about an inch across and are borne very freely in 4-flowered to 8-flowered clusters. The pear-shaped fruits are dark red with paler dots and are about half an inch wide.

For previous introduction see No. 62026.

80647. *PIERIS TAIWANENSIS* Hayata. Ericaceae.

An evergreen shrub or small tree, native to Taiwan, with oblong spatulate-serrulate leaves 2 to 5 inches long and small urceolate white flowers in terminal drooping panicles up to 6 inches long.

80648. *ROSA FOETIDA* Herrmann (*R. lutea* Mill.). Rosaceae. Austrian brier rose.

A hardy shrubby rose up to 10 feet high, with slender prickly stems and bright-yellow single flowers of characteristic scent. Native to western Asia.

For previous introduction see No. 78944.

80649. CITRUS VANGASAY Bojer. Rutaceae.

From near Tamatave, Madagascar. Seeds presented by the Station Agricole de l'Ivoloïna, through Charles F. Swingle, Bureau of Plant Industry. Received May 31, 1929.

A shrub cultivated in the rural districts of Madagascar for the sake of its thick-skinned orangeliike fruits which are flattened at both ends.

80650 to 80653.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 31, 1929.

80650. BRASSICA OLERACEA VIRIDIS L. Brassicaceae. Kale.

No. 213. *Hanahabotan* (ornamental cabbage flower). From the Yamato Seed Co., Takadacho, Tokyo, May 6, 1929. In Japan it is used as an ornamental, and is grown in pots or small dishes.

80651. CHRYSANTHEMUM CORONARIUM L. Asteraceae. Crowndaisy.

No. 219. *Shungiku*. From the Yamato Seed Co., Takadacho, Tokyo, May 6, 1929. This is said to be the edible chrysanthemum or vegetable chrysanthemum. The leaves are used as a garnish, flavoring, and also cooked as spinach.

80652. TAONABO JAPONICA (Thunb.) Szysz. (Ternstroemia japonica Thunb.). Theaceae.

No. 124. Obtained from trees in a small park on the road to the Samkaido Building, Tokyo, April 30, 1929. A small evergreen Japanese tree about 12 feet high, with a much branched head, leathery entire oblong leaves, and small yellowish-white fragrant flowers. The globose fruits, about the size of a cherry, are yellow tinged with rose on the sunny side. The smooth timber is used for cabinetwork and interior decorating, and the bark is used for dyeing. The plants are diœcious.

80653. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceae. Common wheat.

No. 133. From the Soy Sauce Laboratory of the Imperial Experiment Station, Nishigahara, Tokyo, May 3, 1929. This wheat, originally grown in the Tokyo district, is roasted, ground or coarsely cracked, mixed with boiled soybeans, and then rice bacteria are added in the making of soy sauce.

80654 to 80656.

From Darjiling, India. Seeds presented by J. E. Leslie, Curator, Lloyd Botanic Garden. Received June 7, 1929.

80654. GERBERA KUNZEANA Braun and Aschers. Asteraceae.

A herbaceous perennial with a rosette of ovate entire or pinnatifid leaves, woolly beneath, and scapes a foot high with filiform bracts, and bearing daisylike flower heads. It is native to the temperate slopes of the Himalayas in India.

For previous introduction see No. 39017.

80655. MAESA RUGOSA C. B. Clarke. Myrsinaceae.

A stout shrub or small tree, native to India at an altitude of 8,000 feet, with

80654 to 80656—Continued.

narrowly lanceolate coriaceous leaves 6 to 8 inches long and small white flowers borne in racemose panicles.

80656. RHODODENDRON CAMPANULATUM Don. Ericaceae.

A large evergreen shrub of stiff, spreading habit, sometimes 12 feet high, with oval leaves which are densely covered beneath with a red-brown felt. The flowers, of various rosy purple shades and about 2 inches across, are borne during April in rather loose clusters about 4 inches in diameter. It is native to India at an altitude of 13,000 feet.

For previous introduction see No. 75966.

80657. GOSSYPIUM sp. Malvaceae. Cotton.

From Bamoa, Sinaloa, Mexico. Seeds obtained from Dr. A. W. Morrill, through C. E. Bellis, United States Plant Quarantine and Control Administration. Received June 13, 1929.

80658. PERSEA sp. Lauraceae.

From Chichavac, Guatemala. Seeds presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received June 17, 1929.

Aguacate de Monte. A species growing at an altitude of 9,000 feet.

80659 and 80660.

From Victoriaborg, Akkra, Gold Coast, Africa. Seeds and tubers presented by L. A. King-Church, Conservator of Forests. Received June 14, 1929.

80659. FIRMIANA BARTERI (Masters) Schum. (Sterculia barteri Masters). Sterculiaceae.

An ornamental tree, native to tropical Africa, with rounded cordate leaves and loose panicles of small coral-pink flowers. The wood is light and used for fishnets and floats, and the fiber is used for making rope.

For previous introduction see No. 73054.

80660. LISSOCHILUS sp. Orchidaceae. Orchid.

A terrestrial orchid.

80661 and 80662.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received June 11, 1929.

80661. CLEMATIS GOURIANA Roxb. Ranunculaceae.

For previous introduction and description see No. 80119.

80662. CITRUS WEBBERII Wester. Rutaceae. Alsem.

Kalpi. A small handsome tree, 15 to 30 feet high, which is very drought resistant. It is particularly abundant in the Mountain Province, Nueva Vizcaya, and southern Luzon. The better forms have oblate, very juicy acid fruits somewhat like the mandarin in appearance and up to 2½ inches in diameter; these may be used like the lemon. The species is very variable, and appears promising as a citrus stock.

For previous introduction see No. 62658.

80663. ORYZA SATIVA L. Poaceae.
Rice.

From Howrah, Bengal, India. Seeds obtained from the Deputy Director of Agriculture, Western Circle, Calcutta, through R. Y. Jarvis, American Consul in Charge, Calcutta. Received June 14, 1929.

Patnai paddy.

80664 to 80667.

From Pretoria, Union of South Africa. Seeds obtained from E. Percy Phillips, Principal Botanist, Botanical Station, Division of Plant Industry, Department of Agriculture. Received June 15, 1929.

80664. ACACIA ALBIDA Delile. Mimosaceae.

A low much-branched tree, native to tropical Africa, with whitish bark, axillary spikes of white flowers, and flat oblong pods. It yields a gum similar to gum arabic. The leaves are eaten by goats, and the bark is used in curing leather.

For previous introduction see No. 55419.

80665. ACACIA LASIOPETALA Oliver. Mimosaceae.

A shrub or small tree with the young growing parts softly tomentose. The compound leaves are divided into 14 to 22 pairs of pinnæ, each with 20 to 30 pairs of leaflets. The small flowers, with silky petals, are in small heads on axillary penduncles 1 to 2 inches long. Native to the Mozambique district of southeastern Africa.

80666. BOLUSANTHUS SPECIOSUS (Bolus) Harms (Lonchocarpus speciosus Bolus). Fabaceae.

A small ornamental tree native to South Africa, with compound leaves and long racemes of violet flowers resembling those of wisteria. The tree is subtropical in its requirements, grows best in good deep soil, and is propagated only by seeds. The hard white durable timber is used for wheel spokes.

For previous introduction see No. 76860.

80667. PALLASIA CAPENSIS Christm. (Calodendrum capensis Thunb.). Rutaceae.

A large handsome tree with spreading branches in pairs or in threes. The ovate evergreen opposite leaves are 3 to 4 inches long. The white flowers, with linear-oblong reflexed petals 1 to 2 inches long, are in terminal panicles, and the shining black seeds the size of hazelnuts are borne in hard thick capsules. It is native to South Africa.

80668. VIROLA sp. Myristicaceae.

From Aguna, Guatemala. Seeds presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received June 17, 1929.

Collected at an altitude of 1,400 feet. A large tree, 50 to 100 feet tall, native to tropical America. The seeds, resembling nutmegs, are rich in oil which is of evident value for making soap.

80669. ARGANIA SPINOSA (L.) Skeels (A. sideroxylon Roem. and Schult.). Sapotaceae. Argan.

From Mogador, Morocco. Seeds obtained from Mr. Besson, Inspecteur des Eaux et Forêts. Received June 17, 1929.

The argan tree of western Morocco is very limited in its range, occurring only in that part of the African Continent. It grows to a large size and bears an abundance of light-yellow fruits somewhat resembling small plums in shape. Cattle and goats are said to feed upon these fruits, which are exceedingly acrid to the taste. The seeds are very thick-walled and contain an oil which is used as food and also for illuminating purposes. Apparently the tree is not injured by considerable frost, and it may thrive wherever the hardy citrus grows.

For previous introduction see No. 65467.

80670 and 80671.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received June 15, 1929.

80670. SCOPOLINA JAPONICA (Maxim.) Kuntze. Solanaceae.

No. 175. Obtained from Dr. Eishero Wakabayashi, Chief Officer of the Experimental Farm for Cultivation of Medicinal Plants, Kasukabecho, Saitama Ken, May 15, 1929. Doctor Wakabayashi states that the roots, branches, leaves, and flowers are used in nervous troubles.

For previous introduction see No. 32258.

80671. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae. Soybean.

No. 251. *Sode Furi Daidzu*. From Tokyo, May 15, 1929. A greenish-yellow, medium-large soybean generally used for bean curd, soy sauce, and in cooking.

80672 and 80673. GUNDELIA TOURNEFORTII L. Asteraceae.

From Kurdistan, Turkey. Seeds presented by George E. Lamsa, Mission House, New York, N. Y. Received June, 1929.

A perennial herb much resembling a thistle, with milky juice and spiny many-lobed leaves and flower heads which produce seeds somewhat like those of the sunflower, *Helianthus annuus*. It is native to Kurdistan and Persia, where the young shoots are eaten as a vegetable. The seeds are also eaten.

For previous introduction see No. 51142.

80672. From northwestern Kurdistan.

80673. From southeastern Kurdistan.

80674 and 80675. BRASSICA RUGOSA (Roxb.) Prain. Brassicaceae.

From Java. Seeds collected by W. A. Wiren and presented by P. J. Wester, Bureau of Agriculture, Manila. Received June 27, 1929.

A vegetable extensively grown in India and Java. It is an early cold-weather crop in the hills of the central, eastern, and western Himalayas. The permanent radical leaves form a loose cabbagelike head a foot in diameter. Later a stout stem, 4 to 6 feet high, is formed, its

80674 and 80675—Continued.

branches ascending to make a narrow pyramidal head 6 to 10 inches across. The succulent leaves, 12 to 15 inches long and 8 to 9 inches wide, taper into thick white fleshy stalks 3 to 4 inches long and over an inch wide. The plant is cultivated in Nepal where its leaves are picked almost as fast as they are developed and are used as a vegetable. An oil is extracted from the seeds.

For previous introduction see No. 53542.

80674. *Sesawi idjo*.

80675. *Sesawi puti*.

80676. *CASSIA* sp. *Caesalpinaceae*.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received June 27, 1929.

A small tree, about 20 feet high, which reminds one of *Sesbania grandiflora*.

80677. *ANACARDIUM OCCIDENTALE* L. *Anacardiaceae*. Cashew.

From Tananarive, Madagascar. Seeds obtained from Paul Dean Thompson, American Vice Consul. Received July 26, 1928. Numbered in June, 1929.

A tropical evergreen tree, 30 to 40 feet high, with large leathery leaves. It is native to the West Indies. The small kidney-shaped nuts are borne on large swollen, pear-shaped, juicy, acidulous stalks, 2 to 4 inches long, which are preserved. The edible seeds are roasted and served as a dessert and are now becoming well-known in the markets of the eastern United States, along with other salted nuts.

For previous introduction see No. 52582.

80678. *EXOECARIA BICOLOR* (Hassk.) Zoll. *Euphorbiaceae*.

From Singapore, Straits Settlements. Plants collected by David Fairchild, Agricultural Explorer, Bureau of Plant Industry, with the Allison V. Armour Expedition. Received July 19, 1926. Numbered in June, 1929.

No. 822. Botanic Gardens, May 31, 1926. A handsome shrub with leaves glossy green above and wine-red on the under surface.

80679 and 80680.

From Mountain Province, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received June 24, 1929.

80679. *RUBUS COPELANDII* Merr. *Rosa-ceae*.

A robust bramble with ascending arching spiny canes 10 feet long. It is native to the Philippine Islands at altitudes between 5,000 and 8,000 feet. The leaves are trifoliate, and the orange-red berries are juicy and edible, but lacking in flavor.

For previous introduction see No. 76797.

80680. *VACCINIUM BARANDANUM* Vidal. *Vacciniaceae*.

A shrub or small tree, 12 to 30 feet high, native to the island of Luzon. It has coriaceous undulate-margined leaves 4 to 6 inches long and campanulate red flowers nearly an inch long in axillary racemes. It is found at altitudes between 4,000 and 7,000 feet.

80681 to 80709.

From Guatemala. Seeds presented by Wil-son Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received June 20, 1929.

80681. *ACACIA* sp. *Mimosaceae*.

Obtained at Chichavac at an altitude of 8,300 feet.

80682. *APEIBA ASPERA* Aubl. *Tiliaceae*.

Peine de mico. Obtained at Caballo Blanco at an altitude of 250 feet. A large handsome tree 40 feet high, with grayish bark, oval smooth green leaves 5 inches long, and terminal racemes of yellow flowers. Native to tropical South America.

80683. *CALOCARPUM VIRIDE* Pittier. *Sapo-toceae*. Green sapote.

Injerto. Obtained in the market in the city of Guatemala. A tree, native to Guatemala, which, unlike its near relative, the sapote (*Lucuma mammosa*), grows at an altitude of 5,000 to 6,000 feet. It is about 40 feet high, with long, slender leaves and commonly round to oval fruits often pointed at the tip. The fruits are 2 to 3½ inches in diameter, smooth, dull yellow-green, sometimes becoming almost dull yellow. The skin is not thick and adheres closely to the red-brown flesh, which is soft and melting with a sweet flavor. The one or two large deep-brown seeds are hard and polished and are easily removed from the pulp.

For previous introduction see No. 43788.

80684. *CALOPHYLLUM INOPHYLLUM* L. *Clusiaceae*.

A large tree with leaves like those of a magnolia and producing fruits about an inch in diameter. A bitter, aromatic greenish oil is extracted from the seeds and used for burning by the poorer classes and is also used as an application in rheumatism. The green oil, on saponification, yields a bright-yellow soap. The strong durable reddish wood is useful for the joiner and cabinetmaker, and in India it is used for masts, railway sleepers, etc.

For previous introduction see No. 52595.

80685. *CEDRELA* sp. *Meliaceae*.

Obtained in Monte Grande at an altitude of 600 feet.

80686. *CHAMAEDOREA* sp. *Phoenicaceae*. Palm.

Pacaya. Obtained in Aguna at an altitude of 1,400 feet.

80687. *CITRULLUS VULGARIS* Schrad. *Cucurbitaceae*. Watermelon.

Sandia. Obtained in Monte Grande at an altitude of 600 feet.

80688. *CRATAEGUS STIPULOSA* (H. B. K.) Steud. *Malaceae*. Manzanilla.

From Chichavac, at an altitude of 8,100 feet. A large shrub or small erect slender tree about 20 feet tall, with elliptic-lanceolate serrate leaves and bearing in the spring white flowers resembling apple blossoms. The subglobose fruits, about an inch in diameter, look like small apples and are yellow with russet dots and a blushed cheek. The thin skin surrounds a rather dry, yellowish, mealy pulp and three large seeds.

80681 to 80709—Continued.

In the early fall, commencing about October, the fruits ripen, and from this month until after Christmas they are quite abundant.

For previous introduction see No. 73755.

80689. *DAHLIA MAXONII* Safford. Asteraceae.

Flor de Santa Catarina. From Xetzac, near Tecpam, at 6,500 feet altitude. A tree dahlia, native to Guatemala, where it becomes about 15 feet high and bears clusters of large lilac-pink flowers. A detailed description of this tree dahlia with a discussion of its horticultural possibilities is given in the Journal of Heredity, vol. 11, pp. 265 to 268, 1920.

For previous introduction see No. 73687.

80690. *ENTEROLOBIUM CYCLOCARPUM* (Jacq.) Griseb. Mimosaceae.

Conacaste. From Escuintla. One of the most beautiful and largest trees of the Pacific region of tropical America, where it grows at an altitude of about 2,700 feet. The trunk sometimes becomes 3 feet in diameter. The compound leaves close up during the night, and the pods are twisted into a short spiral. The leaves and pods are much relished by cattle.

For previous introduction see No. 51406.

80691. *GLIRICIDIA SEPIUM* (Jacq.) Kunth (*G. maculata* H. B. K.). Fabaceae.

Madre Cacao. From Monte Grande, at an altitude of about 600 feet.

80692. *HONCKENYA FICIFOLIA* Willd. Tiliaceae.

From Lancetilla. A very striking ornamental shrub native to western tropical Africa. The branches are purplish and covered with yellowish hairs. The hairy leaves are more or less deeply 3-lobed, and the large purple flowers, 2 to 4 inches wide, are in terminal racemes.

For previous introduction see No. 73513.

80693. *LUEHEA SEEMANNII* Planch. and Triana. Tiliaceae.

Tapisquit. A tropical tree with alternate oblong-elliptic irregularly serrulate leaves and rather small white or pink flowers in terminal cymes. Native to Colombia.

80694. *PARMENTIERA EDULIS* DC. Bignoniaceae.

Guajilote. A small tree up to 30 feet high, with the branches armed with short stout recurved spines. The trifoliate leaves have three ovate entire leaflets, the greenish yellow flowers are in clusters on the old wood, and the edible yellowish green fruits are 4 to 6 inches long and about an inch in diameter. Native to Mexico, Guatemala, and El Salvador.

80695. *PHASEOLUS* sp. Fabaceae.

Choreque. From Monte Grande, at an altitude of about 600 feet.

80696. *PHYLLLOCARPUS SEPTENTRIONALIS* Donn. Smith. Caesalpiniaceae.

Flor de Mico. A handsome flowering tree native to eastern Guatemala at altitudes between 1,500 and 2,000 feet. It is

80681 to 80709—Continued.

of broad spreading habit, 40 to 50 feet high, with small light-green compound leaves and clusters of small crimson-scarlet flowers borne in great profusion during January and February.

For previous introduction see No. 59768.

80697. *PINUS OOCARPA* Scheide. Pinaceae. Pine.

A white pine from Concepción, Chiquimula, at an altitude of 1,800 feet.

For previous introduction see No. 50651.

80698. *PLATYMISCIUM POLYSTACHYUM* Benth. Fabaceae.

Hormigo, Palo de Marimba. From Monte Grande, at an altitude of 600 feet. A handsome tropical leguminous tree with opposite, shining-green, compound leaves made up of three to five ovate leaflets and racemes of small flowers. The wood is hard, streaked black and red, and is considered excellent for cabinet-work.

80699. *SENECIO SALIGNUS* DC. Asteraceae.

Chilca. From Xetzac, Tecpam, at an altitude of 6,500 feet. A glabrous shrub 4 to 8 feet high, native to Mexico and Guatemala. The narrowly lanceolate sessile leaves are 1 to 5 inches long, and the bright-yellow daisylike flowers are borne in a terminal cyme.

80700 and 80701. *SICANA ODORIFERA* (Vell.) Naud. Cucurbitaceae. Casabanana.

Melocotón. A subtropical ornamental cucurbitaceous vine producing large fruits a foot or more long, which are edible but insipid.

For previous introduction see No. 72986.

80700. From Monte Grande at an altitude of 600 feet.

80701. From the market in Sololá.

80702. *SIDEROXYLON TEMPISQUE* Pittier. Sapotaceae.

Tempisque. From the market in the city of Guatemala, and probably originating in Antigua. A large tree, glabrous throughout, native to El Salvador and Guatemala. The coriaceous elliptical leaves are 2 to 4 inches long on long petioles; the small greenish-yellow flowers are in dense clusters on the old wood and are followed by ovoid 1-seeded fruits 1 to 2 inches long.

80703. *STERCULIA* sp. Sterculiaceae.

Castano. From Santa Cruz.

80704. *SYMPHONIA GLOBULIFERA* L. f. Clusiaceae.

Leche Amarilla. A large tropical tree up to 80 feet high, with oblong-lanceolate short-stemmed leathery leaves and red flowers, either solitary or in many-flowered umbels. Native to tropical Africa and also tropical America.

80705 to 80707. *TABEBUIA* spp. Bignoniaceae.

80705. *TABEBUIA DONNELL-SMITHII* Rose.

Matilisquate. From Monte Grande, at an altitude of 600 feet. A tree up to 80 feet high, with a trunk often 4 feet in diameter, native to Guatemala. The palmately compound evergreen leaves are made up of five to

80681 to 80709—Continued.

seven serrate-ovate leaflets 8 to 10 inches long, and the panicles of beautiful golden-yellow tubular-campanulate flowers are borne in great profusion.

80706. TABEBUIA PENTAPHYLLA (L.) Hemsl.

Roble. From Monte Grande, at an altitude of 600 feet. A handsome tropical deciduous tree, about 35 feet high, native to Central America. During its flowering period, from January to March, the numerous large clusters of pink flowers make the tree very attractive.

For previous introduction see No. 73286.

80707. TABEBUIA sp.

Cortez. From Monte Grande, at an altitude of 600 feet.

80708. TRIBROMA BICOLOR (Humb. and Bonpl.) O. F. Cook (*Theobroma bicolor* Humb. and Bonpl.). Sterculiaceae.

Cacao pataste. From the market of Sololá.

80709. TRIPLARIS AMERICANA L. Polygonaceae.

Mulato. From Caballo Blanco, at an altitude of 265 feet. A large tropical timber tree with curious 3-angled woody fruits. Native to Central America.

For previous introduction see No. 73287.

80710 to 80712. ZEA MAYS L. Poaceae. Corn.

From Soochow, Kiangsu, China. Seeds presented by H. L. Reeves, American Presbyterian Mission, South. Received June 25, 1929.

80710. Changshu soft corn.

80711. No. 1. **80712.** No. 2.

80713 to 80717.

From Nikolsk-Ussuriisk, Maritime Province, Siberia, Union of Socialistic Soviet Republics. Seeds presented by the Director of the State Russian Geographical Society. Received June 10, 1929.

80713. FRAGARIA ORIENTALIS A. Los. Rosaceae. Strawberry.

A wild strawberry, native to northern Chosen, with erect hairy stems up to 8 inches high, broad coarsely serrate hairy leaflets, and small red conical or spheroidal fruits.

80714. LONICERA MAXIMOWICZII Maxim. Caprifoliaceae. Honeysuckle.

An ornamental shrub up to 10 feet high, with purplish branchlets, ovate leaves 1 to 3 inches long, smooth and dark green above, lighter and pubescent below, and violet-red flowers produced in pairs, followed by red fruits. It is native to the Amur region of Siberia.

80715. SAMBUCUS LATIPINNA Nakai. Caprifoliaceae. Elder.

A low shrub with compound leaves made up of three to five broadly elliptic leaflets, and hemispheric clusters of small white flowers followed by scarlet or orange-red fruits. Native to Chosen.

80713 to 80717—Continued.

80716. SAMBUCUS RACEMOSA L. Caprifoliaceae.

Variety *Buergeriana*. Received as *Sambucus buergeriana* Blume, which appears to be a herbarium name that has not been published.

80717. SYRINGA WOLFI C. Schneid. (*S. robusta* Nakai). Oleaceae. Lilac.

An ornamental shrub remarkable for its peculiar foliage; the elliptic oblong leaves are up to 6 inches long, cuneate, and grayish green beneath. The fragrant, dark-lilac flowers are in much-branched panicles. Native to Manchuria and Chosen.

80718 to 80725. AVENA spp. Poaceae. Oats.

From Cowra, New South Wales, Australia. Seeds presented by J. T. Pridham, Experimental Farm, through T. R. Stanton, Bureau of Plant Industry. Received June 27, 1929.

80718. AVENA sp.

Belar.

80719. AVENA sp.

Gidgee.

80720. AVENA sp.

Guyra.

80721. AVENA sp.

Palestine.

80722. AVENA sp.

No. 4385-C. (*Red Sprig* × *Sunrise*) × *Reid*.

80723. AVENA sp.

No. 4386-C. (*Red Sprig* × *Sunrise*) × *Reid*.

80724. AVENA sp.

No. 4387-C. (*Red Sprig* × *Sunrise*) × *Reid*.

80725. AVENA sp.

No. 4865-C. (*Sunrise* × *Reid*) × *Lachlan*.

80726 to 80759. TRITICUM spp. Poaceae.

From Afghanistan. Seeds collected by Prof. N. I. Vavilov, Institute of Applied Botany and New Cultures, Leningrad. Received June 27, 1929.

80726 to 80756. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Common wheat.

80726. No. 12353. A spring wheat.

80727. No. 12369. Mixture of spring and winter wheat.

80728. No. 12370. Spring wheat from nonirrigated fields.

80729. No. 12391. From the vicinity of Gherat, Shangkhai, at an altitude of about 3,600 feet. Bearded pubescent spring wheat.

80730. No. 12481. From Akhalgaran, at an altitude of about 7,800 feet. Mixture of spring and winter wheat.

80731. No. 12482. From Shakhrah, at an altitude of about 8,250 feet. Inflatum forms of spring wheat for irrigated fields.

80726 to 80759—Continued.

80732. No. 12483. *Triticum compactum*. From Daulat, at an altitude of about 7,800 feet. Spring wheat.
80733. No. 12486. From Piandzhau, at an altitude of about 9,000 feet. Semibearded spring wheat for irrigated fields.
80734. No. 12491. *Triticum compactum*. From Kabul District, at an altitude of about 6,000 feet. Mixture of winter and spring wheat.
80735. No. 12587. From Khadzhi-Durbar, at an altitude of about 3,300 feet. Spring wheat for nonirrigated fields.
80736. No. 12611. From Masar and Sheriff, at an altitude of about 1,500 feet. Mixture of spring and winter wheat for nonirrigated fields.
80737. No. 12621. From Sukhte-Tchinar, at an altitude of about 8,700 feet. Winter wheat for irrigated fields.
80738. No. 12629. *Triticum compactum*. From Navi, at an altitude of about 7,000 feet. Winter wheat.
80739. No. 12636. From Tcharikar, at an altitude of about 5,700 feet. Mixture of spring and winter wheat for irrigated fields.
80740. No. 12657. *Speltiforme*. From Du Ab, at an altitude of about 6,600 feet. Spring wheat for nonirrigated fields.
80741. No. 12667. From Masar and Sheriff, at an altitude of about 1,500 feet. Mixture of spring and winter wheat for nonirrigated fields.
80742. No. 12668. From Masar and Sheriff, at an altitude of about 1,500 feet. Winter wheat for nonirrigated fields.
80743. No. 12669. *Triticum compactum*. From Masar and Sheriff, at an altitude of about 1,500 feet. Spring wheat for nonirrigated fields.
80744. No. 12687. From Kabul District, at an altitude of about 5,700 feet. Winter wheat.
80745. No. 12715. *Triticum compactum*. From Sheikhabad, Kandagar Road, at an altitude of about 6,300 feet. Winter wheat.
80746. No. 12721. From Kabul District, at an altitude of about 5,700 feet.
80747. No. 12722. From Kabul District, at an altitude of about 5,700 feet.
80748. No. 12749. From Kabul District. Inflatum type of a beardless wheat, harvested in 1924, obtained from a German orchardist.
80749. No. 12768. From Kandagar, along the Argendabu River, at an altitude of about 3,000 feet. Mixture of spring and winter wheat. Winter wheat for irrigated fields.
80750. No. 12772. From Darvagi. Mixture of spring and winter wheat. Winter wheat for irrigated fields.
80751. No. 12841. From Mashet District, vicinity of Faisabad, at an altitude of about 4,200 feet. Spring wheat.

80726 to 80759—Continued.

80752. No. 12842. From Argu, at an altitude of about 5,700 feet. Spring wheat for nonirrigated fields.
80753. No. 12846. South of Faisabad, at an altitude of about 3,800 feet. Winter wheat for irrigated fields. Great admixture of rye.
80754. No. 12850. From Dzburum, Badkshan, at an altitude of about 4,400 feet. Spring wheat for nonirrigated fields.
80755. No. 12857. From Dan, at an altitude of about 8,400 feet. Spring wheat, liguleless, for irrigated fields.
80756. No. 12874. From Tchekhosarai, at an altitude of about 4,500 feet. Mixture of winter and spring wheat. Winter wheat for irrigated fields.
- 80757 to 80759. *TRITICUM TURGIDUM* L.
Poulard wheat.
80757. No. 12379. From Gherat, Bazaar, at an altitude of about 2,800 feet. Mixture of spring and winter wheat.
80758. No. 12385. *Triticum compactum*. East of Gherat, at an altitude of about 3,600 feet. Admixture of black-eared forms. Mixture of spring and winter wheat.
80759. No. 12489. *Triticum compactum*. Between Seri-Tcheshme and Koti-Ashrou, at an altitude of about 8,400 feet. Winter wheat with an admixture of beardless wheat.

80760. *AVENA* sp. Poaceae. Oats.

From Cowra, New South Wales, Australia. Seeds presented by J. T. Pridham, Experimental Farm, through T. R. Stanton, Bureau of Plant Industry. Received March 21, 1929.

Kareela C. 28.

80761 to 80768.

From Georgetown, Demerara, British Guiana. Seeds presented by J. S. Dash, Director of the Department of Agriculture. Received June 5, 1929.

80761. *ACROCOMIA VINIFERA* Oerst. Phoenicaceae. Palm.

A palm 40 feet high, native to Central America, with a spiny ringed trunk, large arching pinnate leaves with numerous linear pinnae, and a spathe about 3 feet high. It is closely related to *Acrocomia lasiospatha*.

80762. *ASTROCARYUM AUREUM* Gris. and Wendl. Phoenicaceae. Palm.

A palm, closely related to *Elaeis*, with a prickly trunk and pinnately divided leaves of linear-lanceolate segments, shining above and greenish-golden beneath. It is native to Trinidad.

80763. *EUTERPE VENTRICOSA* C. H. Wright. Phoenicaceae. Palm.

An erect slender spineless pinnate-leaved palm, 20 to 30 feet high, with oblong-lanceolate pinnae about 2 feet long, a much-branched spadix, small white flowers, and brown pealike fruits one-fourth of an inch in diameter. It is native to tropical South America.

80761 to 80768—Continued.

80764. *LICUALA ELEGANS* Blume. Phoenicaceae. Palm.

A fan palm, native to Sumatra, with a short thick trunk about 4 feet high and a crown of orbicular leaves on petioles 3 to 5 feet long, having linear-lanceolate lobes obliquely truncate at the end.

80765. *LINOMA ALBA* (Bory) O. F. Cook. Phoenicaceae. Palm.

Variety *aurea*.

80766. *LIVISTONA OLIVAEFORMIS* Mart. Phoenicaceae. Palm.

A fan palm, native to Brazil, with a medium-sized trunk, leaves on petioles spiny at the base, and the segments divided into long linear pendent lobes 12 to 15 inches long and solitary olive-shaped fruits.

For previous introduction see No. 79570.

80767. *ENGLEROPHOENIX* sp. (*Maximiliana* sp.). Phoenicaceae. Palm.

Tall spineless palms with pinnately divided leaves, related to the Attaleas.

80768. *ROYSTONEA REGIA* (H. B. K.) O. F. Cook (*Oreodora regia* H. B. K.). Phoenicaceae. Royal palm.

Variety *jenmani*.

80769 to 80772.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received June 27, 1929.

80769. *ACACIA* sp. Mimosaceae.

From Ilocos Norte. A tall shrub with long slender branches, growing on dry sandy soil in a region where the dry season is long.

80770. *FLACOURTIA RUKAM* Zoll. and Mor. Flacourtiaceae.

From Manila.

For previous introduction and description see No. 80120.

80771. *PROSOPIS CHILENSIS* (Molina) Stuntz (*P. juliflora* DC.). Mimosaceae. Algaroba.

From Laoag, Ilocos Norte. A spineless form.

For previous introduction see No. 50094.

80772. *VIGNA LUTEA* (Swartz) A. Gray (*V. retusa* Walp.). Fabaceae.

A tropical perennial vine or creeper, native to the Philippines, where it has been found useful as a cover crop. It has also made good forage for cattle.

For previous introduction see No. 74587.

80773. *SOCRATEA EXORRHIZA* (Mart.) Wendl. (*Iriarte exorrhiza* Mart.). Phoenicaceae. Palm.

From Paramaribo, Dutch Guiana. Seeds presented by S. Sahal, Director of the Agricultural Experiment Station. Received June 28, 1929.

A tall handsome spineless palm, native to tropical South America, bearing small yellow flowers and olive-green fruits. It has a swollen cylindrical trunk elevated on a pyramid of exposed roots, giving it a

80773—Continued.

remarkable appearance. The trunk, 35 feet or more high, bears at its summit a crown of large, irregularly pinnate leaves.

For previous introduction see No. 59279.

80774. *KENTIA* sp. Phoenicaceae. Palm.

From Trinidad, British West Indies. Seeds collected by Allison V. Armour. Received April 10, 1929.

Trinidad Botanic Gardens. The kentias are ornamental spineless palms with pinnate leaves composed of linear-lanceolate leaflets. They are closely related to the betel palm, *Areca catechu*.

80775 to 80779. *GOSSYPIUM* spp. Malvaceae. Cotton.

From Paramaribo, Dutch Guiana. Seeds presented by S. Sahal, Director of the Agricultural Experiment Station. Received June 28, 1929.

Seeds collected on cotton trees by the Carib Indians of Torelinde and Bisri, south of Paramaribo.

80775. *GOSSYPIUM* sp.

Amana Ma ulu.

80776. *GOSSYPIUM* sp.

Ateriri Ma ulu.

80777. *GOSSYPIUM* sp.

Ma ulu ne, Kumbo enulu.

80778. *GOSSYPIUM* sp.

Parana Ma ulu.

80779. *GOSSYPIUM* sp.

Tapulu Ma ulu.

80780 to 80809. *PHOENIX DACTYLIFERA* L. Phoenicaceae. Date palm.

From Iraq. Offshoots obtained by Roy W. Nixon, Bureau of Plant Industry, United States Department of Agriculture. Received May 2, 1929.

80780. *Allona*. A medium to small, amber-colored date, resembling somewhat, both in appearance and in quality, the *Amir Haj* [No. 80781], of which it may be a seedling. It occurs only in the Oasis of Mandali, where there are probably fewer than 100 palms.

80781. *Amir Haj*. A variety perhaps the most famous in northern Iraq; known to the United States Department of Agriculture by reputation for 30 years. The fruit is medium-sized, oblong, deep amber, very translucent, with light bloom, thin skin, and rich flavor. The variety is rated by the natives as being a good producer. There is some shipment of fruit to other points in Iraq, but chiefly as gifts or special orders, for it is highly esteemed. It occurs only in the Oasis of Mandali, where there are probably several thousand palms, although any one garden seldom has more than a few specimens.

80782. *Ashrasi*. Obtained at Mandali. A medium to large, ovate, amber-colored date intermediate between the soft and the dry types, possessing many desirable qualities of both. The few specimens of this variety already growing

80780 to 80809—Continued.

in the Coachella Valley of California have attracted attention on the one hand because of the excellence of the fruit and on the other because the flower clusters have seldom set many fruits. From investigations in Iraq it appears that this handicap is diminished by planting on heavy soil and pollinating very promptly after the flowers open. The variety is well known and widely distributed in Iraq, but was not found in abundance except at Mandali.

80783. Azrakani. Obtained at Mandali. A medium to small-sized, amber-colored date somewhat similar to *Allona* [No. 80780], and also very likely a seedling of *Amir Haj* [No. 80781]. A rare variety found chiefly at Mandali.

80784. Badami. Obtained at Mandali. An inferior variety, probably a seedling of *Zaheedy*, to which the fruit has some resemblance, though oblong rather than obovate.

80785. Bahrab. Obtained at Mandali. A variety fairly well known north and east of Baghdad, but nowhere very abundant. It is a long, narrow, amber-colored date of good flavor, resembling the *Okt Fteemy* variety from North Africa. It cures well and is said to be one of the earliest ripening varieties in northern Iraq.

80786. Bairakdar. Obtained at Mandali. A medium to large-sized amber-colored date of fair quality local to Mandali.

80787. Banawish. Obtained at Mandali.

80788. Barhi. Obtained near Basra. An ovate amber date of excellent quality, already known from a few specimens growing in the Coachella Valley of California. It is found chiefly in southern Iraq, where it is rare but well known and highly esteemed. It is one of the few varieties which are sweet in the "khalal" stage—the period immediately preceding the softening which accompanies complete maturity.

80789 and 80790. Bedraya. Probably the best dry date in Iraq. The fruit is medium to large, oblong, straw colored, and mild flavored. The variety is well known in northern Iraq. It was not found in large numbers in any of the localities visited, but was said to be more abundant in Bedra, the oasis of its origin.

80789. Obtained at Mandali.

80790. Obtained from the Oasis of Bedra through the courtesy of J. F. Webster, Inspector General of Agriculture in Iraq.

80791. Braim. Obtained at Basra. A medium-sized oblong amber date common on the Shaat Al Arab. Almost the entire crop in southern Iraq is harvested in the "khalal" or preripe stage, boiled, dried and exported to other parts of Iraq and to India, Persia, and Arabia.

80792. Datri. Obtained at Basra. A common variety in southern Iraq, said to be almost on a par with *Sayer* [No. 80808] in its resistance to adverse conditions. The purplish-brown fruit is medium to large, oblong-elliptical, and of good quality. It now appears that there are a number of palms of this variety already growing in the Coa-

80780 to 80809—Continued.

chella Valley of California, although their identity was in doubt prior to the recent investigations of this department in Iraq.

80793. Digal Iman Husain. Obtained at Mandali. A seedling date of which only a few palms have been propagated locally. The fruit is oblong, rather large, and of the amber type, characterized by a darker color at the base than at the apex.

80794. Digal Umad. A local variety in Mandali. The fruit resembles somewhat the *Khadrawy* of northern Iraq.

80795. Fursi. Obtained in Basra. A variety occurring, though not very common, in southern Iraq. Observations on a specimen of this variety, now fruiting at the United States Experiment Date Garden, Indio, Calif., indicate that it is promising for testing in more humid date areas. The fruit is nearly black, medium sized, oblong-elliptical, and of good quality.

80796. Gantar. Obtained in Basra. A small subspherical amber date said to be late ripening. It is said that nearly 2 per cent of the adult female palm population of the Shaat Al Arab belong to this variety. It is also not uncommon in the date gardens of the Tigris and the lower Euphrates.

80797. Gnami. A male variety of southern Iraq obtained in Basra.

80798. Jaafary. Obtained in the Oasis of Mandali, where this variety is chiefly found. A good soft black date from northern Iraq. It is medium to large and oblong to broadly elliptical.

80799. Karunfuli. A local variety occurring at Mandali. The medium-sized fruit is of the black type and resembles the *Jaafary* [No. 80798] in quality, but differs in shape, being ovate rather than oblong.

80800. Khadrawy of northern Iraq. Obtained in Mandali. An entirely different variety from the *Khadrawy* of Basra, southern Iraq, which has already become established in the southwestern United States. Owing partly to the fact that they do not occur in the same localities, it was not recognized in Iraq prior to the investigations of the United States Department of Agriculture that two of their important varieties were going under the same name. The fruit of the northern variety is very similar to that of the southern variety, but is larger and later in ripening.

80801. Khasab. Obtained in Basra. A medium-sized black date said to be the latest-ripening variety in southern Iraq. Sometimes the dates are allowed to remain on the palms until the coming of the Christmas frosts. Although the flavor is but indifferent, yet a date which so lengthens the season for fresh fruit does not lack popularity. About 1 in 6,000 palms on the banks of the Shaat Al Arab is of this variety, and it is to be found on the banks of the Tigris as far north as Baghdad, but has not been found on the Euphrates.

80802. Khatooni. A local variety in Mandali. The fruit is small to medium sized, oblong, purplish black, and of fair quality.

80780 to 80809—Continued.

80803 and 80804. *Maktum*. A medium to large, oblong, amber date with a mild flavor. It is late ripening and is of excellent quality. It is already well known in the southwestern United States, where there are a limited number of palms. The variety is widely distributed in Iraq, but is nowhere very abundant, existing largely as specimen palms for the use of garden owners rather than for commercial purposes.

80803. Obtained in Basra.

80804. Obtained in Mandali.

80805. *Nabaty*. A single offshoot brought in by one of the natives who assisted in packing at Basra and who said it was a very fine date. It is probably a seedling.

80806. *Salany*. Obtained in Mandali. A medium to large-sized reddish-brown date of fair quality.

80807. *Shalany*. A local variety obtained in Mandali.

80808. *Sayer*. Obtained in Basra. The commonest variety in southern Iraq, said to compose about 45 per cent of the total palm population. It is not generally regarded very highly in Iraq, but has certain qualities which

80780 to 80809—Continued.

make it desirable for testing in prospective date areas in the United States. It is very resistant to adverse conditions, survives drought better than any other variety, and is said to be less subject to insect attacks. In Iraq it is generally planted on the poorest soil, which may have something to do with the poor quality of the fruit obtained. The fruit is medium sized, oblong, deep red, cures well, and seems adapted to commercial handling.

80809. *Red Maktum*. Obtained in Mandali. An inferior seedling having no resemblance either in palm or in fruit to the real *Maktum* as far as could be observed. It is a medium-sized date of a dull reddish brown.

80810. BUDDLEIA MACROSTACHYA Benth. Loganiaceae.

From Gangtok, Sikkim, India. Seeds presented by the Sikkim Forest Manager. Received May 15, 1928. Numbered in June, 1929.

A tender shrub, 3 to 8 feet high, with white, woolly, oblong-lanceolate leaves up to 8 inches long and white flowers with an orange throat, in dense spikes 4 to 10 inches long. Native to the Himalayas.

INDEX OF COMMON AND SCIENTIFIC NAMES

- Abies* sp., 80357.
Abumom sp. See *Agapanthus* sp.
Acacia spp., 80681, 80769.
 albida, 80664.
 falcata, 80060.
 lasiopetala, 80665.
 ligulata. See *A. salicina*.
 longifolia sophorae, 80061.
 maidenii, 80062.
 rupicola, 80063.
 salicina, 80064.
Acanthorrhiza aculeata, 80170.
Acer myabei, 80268.
Aconitum sp., 80358.
Acrocomia vinifera, 80761.
Adansonia digitata, 80412.
Agapanthus sp., 80556.
Albizzia lebbekoides, 80568.
Algaroba. See *Prosopis chilensis*.
Almond. See *Amygdalus communis*.
Alsem. See *Citrus webberii*.
Amygdalus communis, 80126, 80127.
 persica, 80089, 80128-80134, 80571-80574.
Anacardium occidentale, 80677.
Anay. See *Hufelandia anay*.
Anemone sp., 80359.
Apeiba aspera, 80682.
Apple. See *Malus* spp.
Apricot. See *Prunus armeniaca*.
Archontophoenix alexandrae, 80171.
Areca catechu, 80172.
Argan. See *Argania spinosa*.
Argania sideroxyylon. See *Argania spinosa*.
 spinosa, 80669.
Artocarpus communis, 80173, 80555.
Arum spp., 80557-80559.
Asparagus-bean. See *Vigna sesquipedalis*.
Assonia mastersii, 80174.
Astragalus sp., 80102.
 sinicus, 80533.
Astrocaryum aureum, 80762.
Attalea spectabilis, 80175.
Avena spp., 80221-80245, 80718-80725, 80760.
 byzantina, 80217-80219.
 sativa, 80220.
Avocado. See *Persea americana*.
Azalea. See *Rhododendron albrechtii*, *R. mariesii*, and *R. tschonoskii*.

Bamboo. See *Phyllostachys* spp.
Baobab. See *Adansonia digitata*.
Barberry. See *Berberis* spp.
Barleria lupulina, 80053.
Barley. See *Hordeum vulgare pallidum*.
Barringtonia asiatica, 80176.
 speciosa. See *B. asiatica*.
Bauhinia sp., 80360.
 malabarica, 80042.
Bean, adzuki. See *Phaseolus angularis*.
 common. See *P. vulgaris*.
 hyacinth. See *Dolichos lablab*.
 jack. See *Canavalia ensiformis*.
 mung. See *Phaseolus aureus*.
 sword. See *Canavalia gladiata*.
Berberis insignis, 80076.
 replicata, 80645.
 sanguinea, 80393.
 umbellata, 80077.
 vallichiana, 80078.
Betula turkestanica fetisowii, 80269.
Birch. See *Betula turkestanica fetisowii*.
Bolusanthus speciosus, 80666.
Borassus flabellifer, 80177.

Brassica spp., 80576-80582.
 oleracea viridis, 80650.
 rugosa, 80674, 80675.
Breadnut. See *Artocarpus communis*.
Broadbean. See *Vicia faba*.
Broom. See *Cytisus* spp.
 pale. See *C. albus*.
 paradise. See *C. scoparius andreanus*.
 Province. See *C. purgans*.
 Scotch. See *C. scoparius*.
 Warminster. See *C. praecox*.
Buddleia macrostachya, 80810.
Burra. See *Acacia falcata*.

Cajanus indicus, 80155-80167.
Callicoma serratifolia, 80065.
Calocarpum viride, 80683.
Calodendrum capensis. See *Pallasia capensis*.
Calophyllum inophyllum, 80684.
Canavalia ensiformis, 80501, 80562.
 gladiata, 80503-80505.
Canna, edible. See *Canna edulis*.
Canna edulis, 80382-80387, 80542, 80543.
Cape-cowslip. See *Lachenalia* spp.
Capulin. See *Prunus capuli*.
Caragana pygmaea, 80270.
Carica cauliflora, 80048.
 papaya, 80178, 80583.
Caryota mitis, 80179.
Casabanana. See *Sicana odorifera*.
Cassia spp., 80636, 80676.
Castanea mollissima, 80388.
Castanopsis sp., 80041.
Cedrela sp., 80685.
Chamaedorea sp., 80686.
Chayota edulis, 80075, 80094, 80097-80099, 80527-80529.
Chayote. See *Chayota edulis*.
Cherry. See *Prunus* sp., 80373.
 maraschino. See *P. cerasus marasca*.
 oriental. See *P. serrulata*.
 sour. See *P. cerasus*.
 sweet. See *P. avium*.
Chestnut, hairy. See *Castanea mollissima*.
Chile-bells, red. See *Lapageria rosea*.
Chincherichee. See *Ornithogalum thyrsoides aureum*.
Chinese-poppy, yellow. See *Meconopsis integrifolia*.
Chinquapin, evergreen. See *Castanopsis* sp.
Chloris castilloniana, 80525.
Chordospartium stevensonii, 80566.
Chrysanthemum coronarium, 80651.
 maximum, 80055-80058.
 Pyrenees. See *Chrysanthemum maximum*.
Citrullus vulgaris, 80436-80444, 80584, 80585, 80687.
Citrus sp., 80635.
 angulata. See *Merope angulata*.
 nobilis deliciosa, 80147.
 nobilis unshiu, 80253-80260.
 vangasay, 80649.
 webberii, 80662.
Clematis, Armandi. See *Clematis armandi*.
Clematis armandi, 80105.
 gouriana, 80119, 80630, 80661.
Clover, bur. See *Medicago hispida denticulata*.
 red. See *Trifolium pratense*.
 strawberry. See *T. resupinatum*.
Coeholosperrum hibiscoides. See *Maximiliana vitifolia*.

- Cocos amara*. See *Rhyticocos amara*.
Colocasias spp., 80586, 80587.
 Corn. See *Zea mays*.
Corypha sp., 80633.
Cotoneaster spp., 80361, 80394–80398.
 harroviana, 80394.
 Cotton. See *Gossypium* spp.
 Cowpea. See *Vigna sinensis*.
 Coyo. See *Persea schiedeana*.
 Crab, Sikkim. See *Malus sikkimensis*.
 Crapemyrtle, queen. See *Lagerstroemia speciosa*.
Crataegus stipulosa, 80688.
Croton sp., 80249.
 Crowndaisy. See *Chrysanthemum coronarium*.
 Cucumber. See *Cucumis sativus*.
Cucumis melo, 80117, 80445–80450, 80588–80591, 80643.
 sativus, 80031.
Cucurbita maxima, 80422.
 moschata, 80592–80596.
 pepo, 80597, 80598.
 Cushaw. See *Cucurbita moschata*.
Cynodon dactylon, 80145, 80146.
Cyrilla racemiflora, 80049.
Cytisus spp., 80325–80327.
 albus, 80308.
 alschingeri. See *Laburnum anagyroides alschingeri*.
 ardoini, 80423.
 austriacus, 80309.
 beanii, 80424.
 biflorus, 80310, 80311.
 candicans. See *C. monspessulanus*.
 dallimorei, 80312.
 decumbens, 80313.
 monspessulanus, 80314.
 multiflorus incarnatus, 80315.
 nigricans carlieri. See *C. nigricans elongatus*.
 nigricans elongatus, 80316.
 praecox, 80194.
 praecox albus, 80317.
 purgans, 80318.
 purpureus, 80425.
 rochelii, 80319.
 scoparius, 80320–80324.
 scoparius andreanus, 80426–80431.
 Daffodil, petticoat. See *Narcissus bulbocodium citrinus*.
Dahlia maxonii, 80689.
 Daphne, Balkan. See *Daphne blagayana*.
Daphne blagayana, 80432.
 encorum, 80433.
Deguelia trifoliata, 80052.
Delphinium sp., 80362.
Derris uliginosa. See *Deguelia trifoliata*.
Desmodium tiliacifolium. See *Meibomia tiliacifolia*.
Deutzia spp., 80400, 80401.
 schneideriana laxiflora, 80399.
Dialium guineense, 80180.
Diospyros kaki, 80118.
Dolicholus phaseoloides, 80090.
Dolichos lablab, 80506–80509.
Dombeya mastersii. See *Assonia mastersii*.
 Eggplant. See *Solanum melongena*.
Elaeis guineensis, 80181.
 Elder. See *Sambucus latipinna*.
 Elm, Japanese. See *Ulmus japonica*.
Englerophoenix sp., 80767.
Enterolobium cyclocarpum, 80690.
Erica arborea alpina, 80328.
 carnea, 80329–80333.
 ciliaris, 80334.
 cinerea, 80335.
 mackaiana. See *E. mackaii*.
 mackaii, 80336.
 mediterranea, 80337.
 tetralix, 80338.
 williamsii, 80339.
Eriobotrya hookeriana, 80079.
Erythrina acanthocarpa, 80251.
Escallonia sp., 80101.
Eucalyptus corymbosa, 80066.
 gummifera. See *E. corymbosa*.
 siderophloia, 80067.
Eugenia aquea, 80531.
Euonymus verrucosus, 80402.
Euterpe ventricosa, 80763.
Exoecaria bicolor, 80678.
Fatsia japonica, 80600.
Feronia elephantum. See *F. limonia*.
 limonia, 80567.
Ficus sp., 80569.
 benjamina, 80080.
 calophylloides, 80417.
 carica, 80150–80153, 80294–80299.
 conora, 80047.
 hispida, 80081.
 hookeri, 80082.
 indica, 80418.
 minahassae, 80419.
 nuda, 80420.
 odorata, 80421.
 vogelii, 80413.
 Fig. See *Ficus* spp.
 Benjamin. See *F. benjamina*.
 common. See *F. carica*.
 Fir. See *Abies* sp.
 Firethorn. See *Pyracantha* sp.
Firmiana barkeri, 80659.
Flacourtia rukam, 80120, 80770.
Fragaria spp., 80108–80116, 80140–80143.
 orientalis, 80713.
 Gentian. See *Gentiana brachyphylla*.
 Himalayan. See *G. tibetica*.
 milkweed. See *G. asclepiadea*.
Gentiana asclepiadea, 80271.
 baicaliensis, 80272.
 brachyphylla, 80195.
 burseri, 80273.
 fetisowii, 80274.
 freyniana, 80275.
 grombescenskii, 80276.
 kurroo, 80277.
 macrophylla, 80278.
 olivieri, 80279.
 pannonica, 80280.
 phlogifolia, 80281.
 przewalskii, 80282.
 saponaria, 80283.
 septemfida, 80284.
 tibetica, 80285.
 walujewi, 80286.
Gerbera kunzeana, 80654.
 Ginger. See *Zinziber officinale*.
Gladiolus sp., 80560.
Gliricidia maculata. See *G. sepium*.
 sepium, 80691.
Glycine hispida. See *Soja max*.
 Goldenchain. See *Laburnum anagyroides alschingeri*.
Gossypium spp., 80213, 80657, 80775–80779.
 cernuum, 80208.
 jamaicense, 80209.
 kirkii, 80210.
 purpurascens, 80211.
 schottii, 80212.
Grammatophyllum speciosum, 80252.
 Grape. See *Vitis* spp.
 European. See *V. vinifera*.
 sand. See *V. rupestris*.
 Grass, Bermuda. See *Cynodon dactylon*.
 See also *Chloris castilloniana*, *Panicum paucispicatum*, *Saccharum spontaneum*, and *Spartina townsendii*.
Grevillea hilliana, 80068.
Grewia occidentalis, 80550.
Gundelia tournefortii, 80672, 80673
Halfordia drupifera, 80069.
 Heath. See *Erica* spp.
 Biscay. See *E. mediterranea*.
 crossleaf. See *E. tetralix*.
 fringed. See *E. ciliaris*.
 spring. See *E. carnea*.
 twisted. See *E. cinerea*.
Helenium autumnale, 80059, 80356.
 Hemlock. See *Tsuga dumosa*.
 Holly. See *Ilex* spp.
Honckenya ficifolia, 80692.
 Honeysuckle. See *Lonicera* spp.
Hordeum vulgare pallidum, 80121.
Hufelandia anay, 80500.
Hyophorbe verschaffeltii, 80182.

- Ilex* sp., 80363.
 insignis, 80083.
 pernyi, 80403.
 purpurea, 80095.
Incarvillea grandiflora, 80364.
Inodes blackburniana, 80183.
 mexicana, 80551.
Ipomoea batatas, 80601.
 macalusoii, 80046.
Iriartea exorrhiza. See *Socratea exorrhiza*.
Iris, Clarke. See *Iris clarkei*.
Iris spp., 80365-80367.
 clarkei, 80084, 80404.
 Ironbark, broadleaf. See *Eucalyptus siderophloia*.
 Kale. See *Brassica oleracea viridis*.
Kennedia rubicunda, 80070.
Kentia sp., 80774.
 macarthuri. See *Ptychosperma macarthuri*.
Kigerukkan. See *Merope angulata*.
Kitaibelia lindemuthi, 80405.
Kokia dryarioides, 80267.

Laburnum anagyroides alschingeri, 80406.
Lachenalia rubida, 80350.
 tricolor aurea, 80351.
Lactuca sp., 80602.
Lagerstroemia flos-reginae. See *L. speciosa*.
 speciosa, 80184.
Lapageria rosea, 80434, 80638.
Lardizabala biternata, 80435.
 Larkspur. See *Delphinium* sp.
Latania commersonii, 80185.
 Leatherwood. See *Cyrilla racemiflora*.
 Lettuce. See *Lactuca* sp.
Licuala elegans, 80764.
Ligustrum sp., 80287.
 Lilac. See *Syringa* spp.
Lilium spp., 80455, 80599.
 Lily. See *Lilium* spp.
Linoma alba, 80765.
Lissochilus sp., 80660.
Livistona australis, 80186.
 chinensis, 80187.
 olivaeformis, 80766.
Lomatia fraxinifolia, 80071.
 longifolia. See *Tricondylus myricoides*.
Lonicera sp., 80407.
 maximowiczii, 80714.
Lonchocarpus speciosus. See *Bolusanthus speciosus*.
Luehea seemannii, 80693.
Lycopersicon esculentum, 80032.

Maesa rugosa, 80655.
Malus sp., 80368.
 sikkimensis, 80646.
 Manzanilla. See *Crataegus stipulosa*.
Martinezia corallina, 80188.
Maximiliana sp. See *Englerophoenix* sp.
Maximiliana vitifolia, 80631.
Meconopsis integrifolia, 80369.
Medicago hispida denticulata, 80534.
Meibomia tiliaefolia, 80085.
 Melon. See *Cucumis melo*.
Melothria odorata, 80086.
Merope angulata, 80122.
 Milkvetch. See *Astragalus* sp.
 Monkshood. See *Aconitum* sp.
 Morning-glory. See *Ipomoea macalusoii*.
Mucuna sp., 80634.
Myoporum acuminatum angustifolium, 80414-80416.

Narcissus bulbocodium citrinus, 80196.
 cyclamineus, 80197.
 Necklacetree. See *Ormosia monosperma*.
Nerine sp., 80561.
Nicotiana tabacum, 80250.

 Oats. See *Avena* spp.
Omphalodes verna, 80198.
 Orange, mandarin. See *Citrus nobilis delavayi*.
 Satsuma. See *C. nobilis unshiu*.
 Orchid. See *Grammatophyllum speciosum* and *Lissochilus* sp.

Oreodoxa regia. See *Roystonea regia*.
Ormosia monosperma, 80091.
Ornithogalum spp., 80562-80564.
 arabicum, 80352.
 lacteum, 80575.
 pyrenaicum, 80215.
 speciosum, 80353.
 thyrsoides aureum, 80354.
Oryza sativa, 80050, 80051, 80389-80392, 80663.

Pallasia capensis, 80667.
 Palm, African oil. See *Elaeis guineense*.
 Australian fan. See *Livistona australis*.
 betel. See *Areca catechu*.
 Chinese fan. See *Livistona chinensis*.
 date. See *Phoenix dactylifera*.
 Fiji fan. See *Styloma pacifica*.
 fishtail. See *Caryota mitis*.
 MacArthur. See *Ptychosperma macarthuri*.
 Palmyra. See *Borassus flabellifer*.
 rootspine. See *Acanthorrhiza aculeata*.
 royal. See *Roystonea regia*.
 spindle. See *Hyophorbe verschaffelti*.
 See also *Acrocomia vinifera*, *Archontophoenix alexandrae*, *Astrocaryum aureum*, *Attalea spectabilis*, *Chamaedorea* sp., *Corypha* sp., *Englerophoenix* sp., *Euterpe ventricosa*, *Kentia* sp., *Licuala elegans*, *Linoma alba*, *Livistona olivaeformis*, *Martinezia corallina*, *Rhyticocos amara*, *Inodes mexicana*, and *Socratea exorrhiza*.
 Palmetto, blackburn. See *Inodes blackburniana*.
Panicum paucispicatum, 80526.
 Papaya. See *Carica papaya*.
Parmentiera edulis, 80694.
 Pea. See *Pisum sativum*.
 darling. See *Swainsona galegifolia*.
 Peach. See *Amygdalus persica*.
 Pear. See *Pyrus* sp.
 Pea-tree, dwarf. See *Caragana pygmaea*.
Pedicularis gracilis, 80199.
 integrifolia, 80200.
 megalantha, 80201.
 roylei, 80202.
 schizorrhyncha, 80203.
 trichoglossa, 80204.
Persea sp., 80658.
 americana, 80532, 80552, 80553.
 gratissima. See *P. americana*.
 schiedeana, 80540.
 Persimmon, kaki. See *Diospyros kaki*.
Phaseolus sp., 80695.
 angularis, 80510-80517.
 aureus, 80518, 80519.
 vulgaris, 80370, 80603-80623.
Phoenix dactylifera, 80780-80809.
Phyllocarpus septentrionalis, 80696.
Phyllostachys sp., 80149.
 edulis, 80034.
Pieris taiwanensis, 80647.
 Pigeon pea. See *Cajanus indicus*.
 Pine, Armand. See *Pinus armandi*.
 Pine. See *Pinus* spp.
Pinus armandi, 80096.
 insularis, 80044.
 merkusii, 80103.
 nigra mauritanica, 80106.
 occarpa, 80697.
 Pistache. See *Pistacia* spp.
Pistacia integerrima, 80035.
 vera, 80452-80454.
Pisum sativum, 80535, 80624.
Platymiscium polystachyum, 80698.
Polymnia edulis, 80100.
Portlandia grandiflora, 80189.
 Potato. See *Solanum tuberosum*.
 Primrose. See *Primula* spp.
Primula anisodora, 80054.
 forrestii, 80372.
Pritchardia pacifica. See *Styloma pacifica*.
 Privet. See *Ligustrum* sp.
Prosopis chilensis, 80771.
 juliflora. See *P. chilensis*.

- Prostanthera lasianthos*, 80530.
Prunus sp., 80373.
 amygdalus. See *Amygdalus communis*.
 armeniaca, 80135-80138.
 avium, 80261, 80262.
 capuli, 80632.
 cerasus, 80139.
 cerasus marasca, 80263-80266.
 persica. See *Amygdalus persica*.
 serrulata, 80036.
Ptychosperma alexandrae. See *Archontophoenix alexandrae*.
 macarthuri, 80190.
 Pumpkin. See *Cucurbita pepo*.
Pyracantha sp., 80408.
Pyrus sp., 80154.

Radermachera sp., 80570.
Rhododendron spp., 80376-80381.
 albrechtii, 80304.
 campanulatum, 80656.
 coriaceum, 80374.
 decorum, 80305.
 heliopsis, 80375.
 mariesii, 80306.
 tschonoskii, 80307.
Rhynchosia phaseoloides. See *Dolicholus phaseoloides*.
Rhyticocos amara, 80191.
 Rice. See *Oryza sativa*.
Rosa foetida, 80648.
 harisonii, 80544-80547.
 lutea. See *R. foetida*.
 rubrifolia, 80288.
 spinosissima, 80289, 80548, 80549.
 spinosissima altaica, 80290.
 spinosissima hispida, 80291.
 Rosarybean. See *Dolicholus phaseoloides*.
Roscoeae humeana, 80205.
 Rose, Altai. See *Rosa spinosissima altaica*.
 Austrian brier. See *R. foetida*.
 bristly Scotch. See *R. spinosissima hispida*.
 Harrison's yellow. See *R. harisonii*.
 redleaf. See *R. rubrifolia*.
 Scotch. See *R. spinosissima*.
Roystonea regia, 80768.
Rubus copelandii, 80679.

Sabal mexicana. See *Inodes mexicana umbraculifera*. See *I. Blackburniana*.
Sabinea carinalis, 80644.
Saccharum officinarum, 80092, 80107, 80144, 80169, 80541.
 spontaneum, 80349.
Sambucus latipinna, 80715.
 racemosa, 80716.
 Sandalwood, false. See *Ximenia americana*.
 Sapote, green. See *Calocarpum viride*.
Saxifraga alberti, 80206.
 Saxifrage. See *Saxifraga alberti*.
 Scarborough-lily. See *Vallota speciosa*.
Scopolina japonica, 80670.
Scchium edule. See *Chayota edulis*.
Senecio salignus, 80699.
Sesbania cannabina, 80148.
Sicana odorifera, 80700, 80701.
Sideroxylon tempisque, 80702.
 Sneezeweed. See *Helenium autumnale*.
 Snowbell. See *Styrax hookeri*.
Socratea exorrhiza, 80773.
Soja max, 80459-80498, 80536, 80537, 80671.
Solanum melongena, 80625.
 tuberosum, 80019-80030, 80168, 80626-80628.
Sorbus wilsoniana, 80409.
 Soybean. See *Soja max*.
Spartina townsendi, 80033, 80043.
 Spinach, common. See *Spinacia oleracea*.
Spinacia oleracea, 80629.
 Squash. See *Cucurbita maxima*.

 Star-of-Bethlehem. See *Ornithogalum pyrenaicum* and *O. speciosum*.
 Arabian. See *O. arabicum*.
Sterculia sp., 80703.
 barteri. See *Firmiana barteri*.
Stranvaesia sp., 80371.
 Strawberry. See *Fragaria* spp.
Streblus asper, 80637.
Styloma pacifica, 80192.
Styrax hookeri, 80087.
 Sugarcane. See *Saccharum officinarum*.
 Sweetpotato. See *Ipomoea batatas*.
Swainsona coronillifolia. See *S. galegifolia*.
 galegifolia, 80072.
Symphonia globulifera, 80704.
Syncarpia glomulifera, 80073.
Syringa sp., 80292.
 robusta. See *S. wolfi*.
 wolfi, 80717.

Tabebuia sp., 80707.
 donnell-smithii, 80705.
 pentaphylla, 80706.
 Tamarind, velvet. See *Dialium guineense*.
Taonabo japonica, 80652.
Ternstroemia japonica. See *Taonabo japonica*.
Theobroma bicolor. See *Tribroma bicolor*.
 Tiger-flower, common. See *Tigridia pavonia*.
Tigridia pavonia, 80104, 80246-80248.
 Tobacco, common. See *Nicotiana tabacum*.
Tofieldia calyculata, 80207.
 Tomato. See *Lycopersicon esculentum*.
Tribroma bicolor, 80708.
Tricondylus myricoides, 80074.
Trifolium pratense, 80093.
 resupinatum, 80293.
Triplaris americana, 80709.
Triticum aestivum, 80340-80347, 80639-80641, 80653, 80726-80756.
 durum, 80348, 80642.
 turgidum, 80757-80759.
 vulgare. See *T. aestivum*.
Tsuga brunoniana. See *T. dumosa*.
 dumosa, 80088.
Turraea obtusifolia, 80214.

Ulmus japonica, 80554.
 Undetermined, 80045, 80193, 80565.

Vaccinium barandatum, 80680.
Vallota purpurea. See *V. speciosa*.
 speciosa, 80355.
 Venusbutton. See *Omphalodes verna*.
Veronica roenitzeri, 80410.
 waldsteinii, 80411.
 Vetch. See *Vicia narbonensis*.
Vicia faba, 80538, 80539.
 narbonensis, 80216.
Vigna lutea, 80772.
 retusa. See *V. lutea*.
 sesquipedalis, 80520-80523.
 sinensis, 80524.
Viola sp., 80668.
Vitis berlandieri × *riparia*, 80123.
 rupestris, 80124, 80125.
 vinifera, 80037-80040, 80300-80303.
Voandzeia subterranea, 80451.

 Watermelon. See *Citrullus vulgaris*.
 Wheat, common. See *Triticum aestivum*.
 durum. See *T. durum*.
 poultard. See *T. turgidum*.
 Wood apple. See *Feronia limonia*.
 Woodbetony. See *Pedicularis* spp.

Ximenia americana, 80499.

Zea mays, 80710-80712.
Zinziber sp., 80458.
 officinale, 80456, 80457.

ACC:- 4958

